FREEDOM Z

Made in the USA by SCAG

# MODEL SFZ

THIS MANUAL CONTAINS THE OPERATING INSTRUCTIONS AND SAFETY INFORMATION FOR YOUR SCAG MOWER. READING THIS MANUAL CAN PROVIDE YOU WITH ASSISTANCE IN MAINTENANCE AND ADJUSTMENT PROCEDURES TO KEEP YOUR MOWER PERFORMING TO MAXIMUM EFFICIENCY. THE SPECIFIC MODELS THAT THIS BOOK COVERS ARE CONTAINED ON THE INSIDE COVER. BEFORE OPERATING YOUR MACHINE, PLEASE READ ALL THE INFORMATION ENCLOSED.

OPERATOR'S MANUAL

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SCAG POWER EQUIPMENT
DIVISION OF METALCRAFT OF MAYVILLE, INC.

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# ⚠ WARNING:

**FAILURE TO FOLLOW SAFE OPERATING PRACTICES MAY RESULT IN SERIOUS INJURY.**

* Read this manual completely as well as other manuals that came with your mower.
* DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. Under no circumstances should the machine be operated on slopes greater than 15 degrees. ALWAYS FOLLOW OSHA APPROVED OPERATION.
* DO NOT mow on wet grass. Wet grass reduces traction and steering control.
* Keep all shields in place, especially the grass discharge chute.
* Before performing any maintenance or service, stop the machine and remove the spark plug wire and ignition key.
* If a mechanism becomes clogged, stop the engine before cleaning.
* Keep hands, feet and clothing away from power-driven parts.
* Keep others off the mower (only one person at a time)

## REMEMBER - YOUR MOWER IS ONLY AS SAFE AS THE OPERATOR!

**Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of the personnel involved in the operation, transport, maintenance, and storage of the equipment.**

This manual covers the operating instructions and illustrated parts list for:

| | |
|---|---|
| **SFZ48-19KA** | **with a serial number of D8600001 to D8600300** |
| **SFZ48-26BS** | **with a serial number of D8500001 to D8500300** |
| **SFZ52-19KA** | **with a serial number of D8800001 to D8800150** |
| **SFZ52-26BS** | **with a serial number of D8700001 to D8700200** |
| **SMFZ-48** | **with a serial number of D9700001 to D9799999** |
| **SMFZ-52** | **with a serial number of D9800001 to D9899999** |

Always use the entire serial number listed on the serial number tag when referring to this product.

SCAG POWER EQUIPMENT

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# GENERAL INFORMATION

## 1.1 INTRODUCTION

Your mower was built to the highest standards in the industry. However, the prolonged life and maximum efficiency of your mower depends on you following the operating, maintenance and adjustment instructions in this manual.

If additional information or service is needed, contact your Scag Power Equipment Dealer.

We encourage you to contact your dealer for repairs. All Scag dealers are informed of the latest methods to service this equipment and provide prompt and efficient service in the field or at their service shop. They carry a full line of Scag service parts.

**THE REPLACEMENT OF ANY PART ON THIS PRODUCT BY OTHER THAN THE MANUFACTURER'S AUTHORIZED REPLACEMENT PART MAY ADVERSELY AFFECT THE PERFORMANCE, DURABILITY OR SAFETY OF THIS PRODUCT.**

**USE OF OTHER THAN ORIGINAL SCAG REPLACEMENT PARTS WILL VOID THE WARRANTY.**

When ordering parts, always give the model and serial number of your mower. The serial number plate is located under the seat as shown in Figure 1-1.

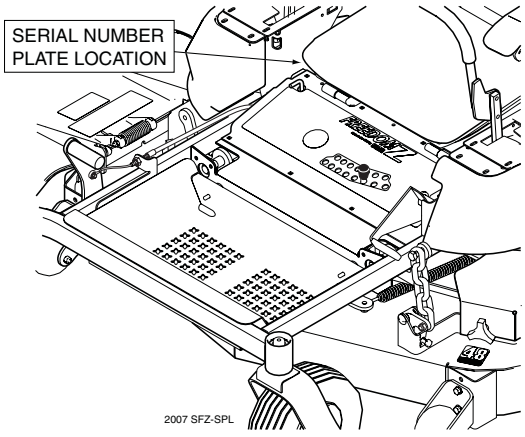


**Figure 1-1 Mower Serial Number Plate Location**

**USE ONLY SCAG APPROVED ATTACHMENTS AND ACCESSORIES. Scag recommends that all approved attachments and accesories be installed by an Authorized Scag Dealer.**

Attachments and accessories manufactured by companies other than Scag Power Equipment are not approved for use on this machine.

Scag approved attachments and accessories:
GC-SFZ (p/n 9068, requires p/n 9069 or p/n 9070 baffle kit)
Hurricane Mulch (p/n 9293, 9294)
Mulch Plate (p/n 9298, 9299)
SFZ Hitch (p/n 9296)
SFZ - Lights (p/n 920A)
Freedom Striper (p/n 9297)
GC-4D (p/n 9054)
GC-F4 (p/n 9055)
Blade Buddy (p/n 9212)

**⚠ WARNING:**

**For pictorial clarity, some illustrations and figures in this manual may show shields, guards or plates open or removed. Under no circumstances should your mower be operated without these devices in place.**

**All information is based upon product information available at the time of approval for printing. Scag Power Equipment reserves the right to make changes at any time without notice and without incurring any obligation.**

## 1.2 DIRECTION REFERENCE

The “Right” and “Left”, “Front” and “Rear” of the machine are referenced from the operator’s right and left when seated in the normal operating position and facing the forward travel direction.

## 1.3 SERVICING THE ENGINE AND DRIVE TRAIN COMPONENTS

The detail servicing and repair of the engine, hydraulic pumps and gearboxes are not covered in this manual; only routine maintenance and general service instructions are provided. For service of these components during the limited warranty period, it is important to contact your Scag dealer or find a local authorized servicing agent of the component manufacturer. Any unauthorized work done on these components during the warranty period may void your warranty.

**ISO Symbols**

| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
|---|---|---|---|
| | Choke | | Transmission |
| | Parking Brake | | Spinning Blade |
| | On/Start | | Spring Tension on Idler |
| | Off/Stop | | Oil |
| | Falling Hazard | | Thrown Object Hazard |

| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
|---|---|---|---|
| | Fast | | Slow |
| | Continuously Variable - Linear | | Cutting Element - Basic symbol |
| | Pinch Point | | Cutting Element - Engage |
| | Hourmeter/Elapsed Operating Hours | | Cutting Element - Disengage |
| | Thown Object Hazard<br>Keep Bystanders Away | | Read Operator's Manual |

# SAFETY INFORMATION

## 2.1 INTRODUCTION

Your mower is only as safe as the operator. Carelessness or operator error may result in serious bodily injury or death. Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of the personnel involved in the operation, transport, maintenance and storage of the equipment. Make sure every operator is properly trained and thoroughly familiar with all of the controls before operating the mower. The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

**READ THIS OPERATOR'S MANUAL BEFORE ATTEMPTING TO START YOUR MOWER.**

A replacement manual is available from your authorized Scag Service Dealer or by contacting Scag Power Equipment, Service Department at P.O. Box 152, Mayville, WI 53050 or via the Internet at www.scag.com. The manual for your machine can be downloaded by using the model and serial number or use the contact form to make your request. Please indicate the complete model and serial number of your Scag product when requesting replacement manuals.

## 2.2 SIGNAL WORDS

This symbol means **"Attention! Become Alert! Your Safety is Involved!"** The symbol is used with the following signal words to attract your attention to safety messages found on the decals on the machine and throughout this manual. The message that follows the symbol contains important information about safety. To avoid injury and possible death, carefully read the message! Be sure to fully understand the causes of possible injury or death.

**Signal Word:**

It is a distinctive word found on the safety decals on the machine and throughout this manual that alerts the viewer to the existence and relative degree of the hazard.

**⚠ DANGER:**

The signal word "DANGER" denotes that an extremely hazardous situation exists on or near the machine that could result in high probability of death or irrepairable injury if proper precautions are not taken.

**⚠ WARNING:**

The signal word "WARNING" denotes that a hazard exists on or near the machine that can result in injury or death if proper precautions are not taken.

**⚠ CAUTION:**

The signal word "CAUTION" is a reminder of safety practices on or near the machine that could result in personal injury if proper precautions are not taken.

Your safety and the safety of others depends significantly upon your knowledge and understanding of all correct operating practices and procedures of this machine.

## 2.3 BEFORE OPERATION CONSIDERATIONS

1. **NEVER** allow children to operate this riding mower. Do not allow adults to operate this machine without proper instructions.

2. **DO NOT** mow when children and/or others are present. Keep children out of the mowing area and in the watchful care of a responsible adult other than the operator. Be alert and turn machine off if a child enters the area.

3. **DO NOT** allow children to ride on or play on the machine, it is not a toy.

4. Clear the area to be mowed of objects that could be picked up and thrown by the cutter blades.

5. **DO NOT** carry passengers.

6. **DO NOT** operate the machine under the influence of alcohol or drugs.

7. If the operator(s) or mechanic(s) cannot read English or Spanish, it is the owner's responsibility to explain this material to them.

8. **DO NOT** wear loose fitting clothing. Loose clothing, jewelry or long hair could get tangled in moving parts. Do not operate the machine wearing shorts; always wear adequate protective clothing including long pants. Wearing safety glasses, safety shoes and a helmet is advisable and is required by some local ordinances and insurance regulations.

**⚠ WARNING:**

**Always wear hearing protection. Operating this machine over prolonged periods of time can cause loss of hearing.**

9. Keep the machine and attachments in good operating condition. Keep all shields and safety devices in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operating the machine.

**⚠ WARNING:**

**This machine is equipped with an interlock system intended to protect the operator and others from injury. This is accomplished by preventing the engine from starting unless the deck drive is disengaged, the steering control levers are in the neutral position and the operator is in the seat. The system shuts off the engine if the operator leaves the seat with the deck drive engaged and/or the steering control levers are not in the neutral postion and the parking brake is not engaged. Never operate equipment with the interlock system disconnected or malfunctioning.**

10. Be sure the interlock switches are functioning correctly.

11. Fuel is flammable; handle it with care. Fill the fuel tank outdoors. Never fill it indoors. Use a funnel or spout to prevent spillage. Clean up any spillage before starting the engine.

12. **DO NOT** add fuel to a running or hot engine. Allow the engine to cool for several minutes before adding fuel. Never fuel indoors or in enclosed trailers.

13. Keep flammable objects (cigarettes, matches, etc.), open flames and sparks away from the fuel tank and fuel container. Use only approved containers.

14. Equipment must comply with the latest requirements per SAE J137 and/or ANSI/ASAE S279 when driven on public roads.

    ***-NOTE-***

    *If the mower is driven on public roads, it must comply with state and local ordinances as well as SAE J137 and/or ANSI / ASAE S279 requirements. Contact your local authorities for regulations and equipment requirements.*

15. **DO NOT** operate without the side discharge chute installed and in the down position or with an optional grass catcher or mulch plate completely installed.

16. Check the blade mounting bolts at frequent intervals for proper tightness.

17. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before starting the machine.

## 2.4 OPERATION CONSIDERATIONS

1. Know the function of all controls and how to stop quickly.

**⚠ WARNING:**

**DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. Under no circumstances should the machine be operated on slopes greater than 15 degrees.ALWAYS FOLLOW OSHA APPROVED OPERATION.**

## 2.4 OPERATION CONSIDERATIONS (CONT'D)

2. Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing directions on slopes.

3. To prevent tipping or loss of control, start and stop smoothly, avoid unnecessary turns and travel at reduced speed.

4. When using any attachment, never direct the discharge of material toward bystanders or allow anyone near the machine while in operation.

5. Before attempting to start the engine, with the operator in the seat, disengage power to the cutter deck, place the steering control levers in the neutral position and engage the parking brake.

6. If the mower discharge ever plugs, shut off the engine, remove the ignition key, and wait for all movement to stop before removing the obstruction.

**⚠ WARNING:**

**DO NOT use your hand to dislodge the clogged discharge chute. Use a stick or other device to remove clogged material after the engine has stopped running and the blades have stopped turning.**

7. Be alert for holes, rocks, roots and other hidden hazards in the terrain. Keep away from any dropoff. Beware of overhead obstructions (low limbs, etc.), underground obstacles (sprinklers, pipes, tree roots, etc.). Cautiously enter a new area. Be alert for hidden hazards.

8. Disengage power to cutter deck before backing up. Do not mow in reverse unless absolutely necessary and then only after observation of the entire area behind the mower. If you must mow in reverse, maintain a constant lookout to the rear of the machine and mow slowly.

9. **DO NOT** turn sharply. Use care when backing up.

10. Disengage power to cutter deck before crossing roads, walks or gravel drives.

11. Mow only in daylight or good artificial light.

12. **NEVER** raise the deck with the blades engaged.

13. Take all possible precautions when leaving the machine unattended, such as disengaging the mower, lowering the attachments, setting the parking brake, stopping the engine, and removing the key.

14. Disengage power to the attachments when transporting or when not in use.

15. The machine and attachments should be stopped and inspected for damage after striking a foreign object, and damage should be repaired before restarting and operating the machine.

**⚠ CAUTION:**

**DO NOT touch the engine or the muffler while the engine is running or immediately after stopping. These areas may be hot enough to cause a burn.**

**⚠ DANGER:**

**DO NOT run the engine inside a building or a confined area without proper ventilation. Exhaust fumes are hazardous and contain carbon monoxide which can cause brain injury and death.**

16. Keep hands and feet away from cutter blades and moving parts. Contact can injure.

17. Use care when loading or unloading the machine onto a trailer or truck.

18. Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

19. **NEVER** leave the machine running unattended.

## 2.5 ROLL-OVER PROTECTION SYSTEM

**⚠ WARNING:**

**Seat belt must be securely fastened during operation. Failure to do so could cause serious injury or loss of life.**

This mower has been designed for good traction and stability under normal mowing conditions. However, caution must be used when traveling on slopes, especially when the grass is wet. Do not mow on wet grass. Wet grass reduces traction and steering control.

Any or all parts of the Roll-Over Protection System **MUST NOT** be removed. Failure to adhere to this guideline could result in injury or death.

The potential exposure of this seat belt to severe enviromental conditions make it crucial to inspect the seat belt system regularly.

It is recommended that the seat belt be inspected on a daily basis for signs of damage. Any seat belt system that shows cuts, fraying, extreme or unusual wear, significant discoloration due to UV exposure, dirt or stiffness, abrasion to the seat belt webbing, or damage to the buckle, latch plate, hardware or any other obvious problem should be replaced immediately.

**⚠ WARNING:**

**Failure to properly inspect and maintain the seat belt can cause serious injury or loss of life.**

1. Check the full length of the seat belt webbing for cuts, wear, fraying, dirt and stiffness. See Figure 2-1.

2. Check the seat belt webbing in areas exposed to ultra violet rays from the sun or extreme dust or dirt. If the original color of the webbing in these areas is extremely faded and/or is packed with dirt, the physical strength of this webbing may have deteriorated. If this condition exists, replace the seat belt system.

3. Check the buckle and latch for proper operation and determine if the latch plate is exessively worn, deformed, or if the buckle is damaged or cracked. See Figure 2-1.

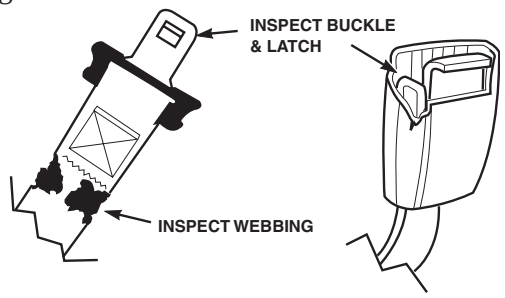


**Figure 2-1 Seat Belt Inspection**

**⚠ WARNING:**

Reduce speed when turning, operating on slopes, slick or wet surfaces. Allow extra distance to stop.

Stay off of slopes too steep for safe operation. To check a slope, attempt to back up it (with the cutter deck down). If the machine can not back up the slope without the wheels slipping, do not operate the machine on this slope. Under no circumstances should the machine be operated on slopes greater than 15 degrees.

**ALWAYS** travel up or down the slope whenever possible. Never across the slope.

**DO NOT** mow near drop-offs, ditches or embankments. The machine could suddenly roll over if a wheel goes over the edge or if the edge caves in.

Operate the machine smoothly, no sudden turns, starts or stops on a slope.

**NEVER** tow on slopes. The weight of the towed equipment may cause loss of traction and loss of control.

**DO NOT** permit untrained personnel to operate the machine.

## 2.6 MAINTENANCE CONSIDERATIONS & STORAGE

1. Never make adjustments to the machine with the engine running unless specifically instructed to do so. If the engine is running, keep hands, feet, and clothing away from moving parts.

2. Disengage drives, lower implement, set parking brake, stop engine and remove key or disconnect spark plug wire to prevent accidental starting of the engine when servicing or adjusting the machine. Wait for all movement to stop before adjusting, cleaning or repairing.

3. Disconnect battery or remove spark plug wire before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect the positive first and the negative last.

4. Keep all nuts, bolts and screws tight, to ensure the machine is in safe working condition. Check blade mounting bolts frequently to be sure they are tight.

5. Do not change the engine governor settings or overspeed the engine. See the engine operator's manual for information on engine settings.

6. To reduce fire hazard, keep the cutting units, drives muffler and engine free of grass, leaves, excessive grease, oil and dirt.

7. Park the machine on level ground and engage the parking brake.

8. **NEVER** allow untrained personnel to service the machine.

9. Use care when checking blades. Wrap the blade(s) or wear gloves and use caution when servicing blades. Only replace or sharpen blades. **NEVER** straighten or weld blades.

10. Keep all parts in good working condition. Replace all worn or damaged decals.

11. Use jack stands to support components when required.

12. Carefully release pressure from components with stored energy.

**⚠ WARNING:**

**Hydraulic fluid is under high pressure. Keep body and hands away from pinholes or nozzles that eject hydraulic fluid under high pressure. If you need service on your hydraulic system, please see your authorized Scag dealer. If hydraulic fluid is injected into the skin, it must be surgically removed within a few hours by a doctor or gangrene may result.**

13. Let the engine cool before storing.

14. **DO NOT** store the machine near an open flame.

15. Shut off fuel while storing or transporting.

16. **DO NOT** store fuel near flames or drain indoors.

17. Charge batteries in an open well-ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.

## 2.7 SAFETY AND INSTRUCTIONAL DECALS

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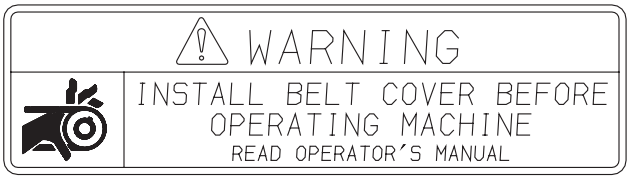


483402

WARNING
ROTATING BLADES AND BELTS
* Keep hands, feet & clothing clear
* Keep all guards in place
* Shut off engine & disengage blade clutch before servicing
* Use caution in directing discharge
* Read instruction manual before operating
DO NOT OPERATE UNLESS GRASS CATCHER, MULCHING KIT OR DISCHARGE CHUTE IS INSTALLED

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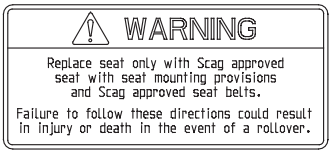
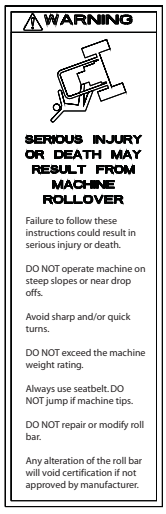
481568


WARNING
Replace seat only with Scag approved seat with seat mounting provisions and Scag approved seat belts.
Failure to follow these directions could result in injury or death in the event of a rollover.

483633


WARNING
SERIOUS INJURY OR DEATH MAY RESULT FROM MACHINE ROLLOVER
Failure to follow these instructions could result in serious injury or death.
DO NOT operate machine on steep slopes or near drop offs.
Avoid sharp and/or quick turns.
DO NOT exceed the machine weight rating.
Always use seatbelt. DO NOT jump if machine tips.
DO NOT repair or modify roll bar.
Any alteration of the roll bar will void certification if not approved by manufacturer.

IMPORTANT
Operation on slopes can be hazardous.
This machine was originally equipped with a Rollover Protection Device with a Roll Bar and Seat Belt.
See your dealer if either is missing or damaged.
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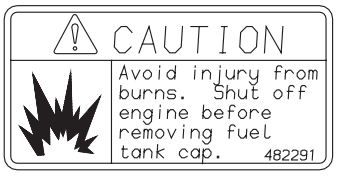


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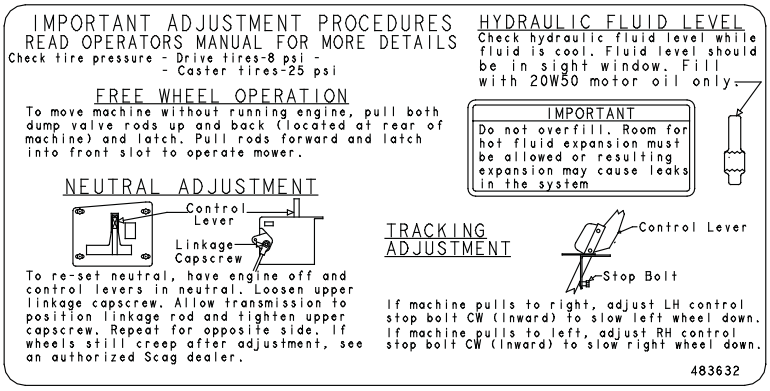
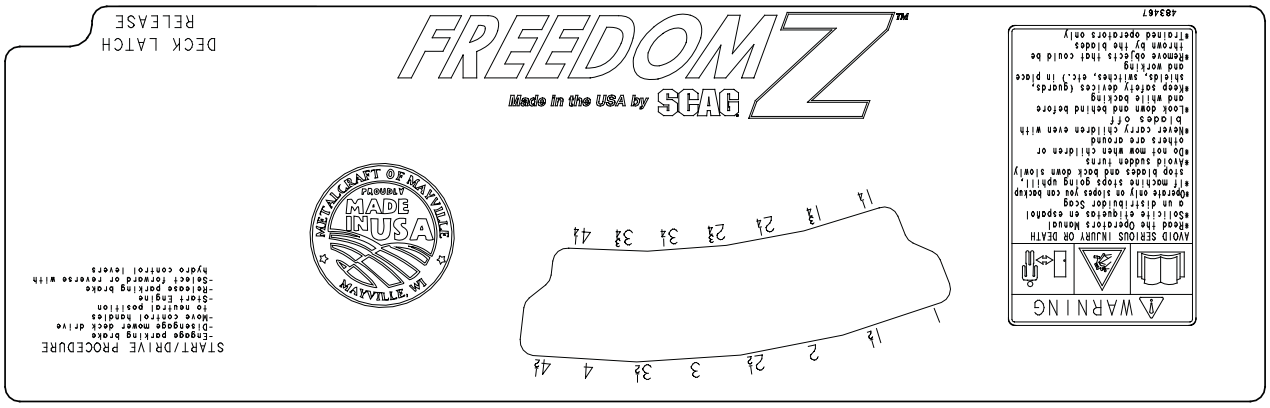

IMPORTANT ADJUSTMENT PROCEDURES
READ OPERATORS MANUAL FOR MORE DETAILS
Check tire pressure - Drive tires-8 psi -
- Caster tires-25 psi
FREE WHEEL OPERATION
To move machine without running engine, pull both dump valve rods up and back (located at rear of machine) and latch. Pull rods forward and latch into front slot to operate mower.
NEUTRAL ADJUSTMENT
Control Lever
Linkage Capscrew
To re-set neutral, have engine off and control levers in neutral. Loosen upper linkage capscrew. Allow transmission to position linkage rod and tighten upper capscrew. Repeat for opposite side. If wheels still creep after adjustment, see an authorized Scag dealer.
HYDRAULIC FLUID LEVEL
Check hydraulic fluid level while fluid is cool. Fluid level should be in sight window. Fill with 20W50 motor oil only.
IMPORTANT
Do not overfill. Room for hot fluid expansion must be allowed or resulting expansion may cause leaks in the system
TRACKING ADJUSTMENT
Control Lever
Stop Bolt
If machine pulls to right, adjust LH control stop bolt CW (inward) to slow left wheel down.
If machine pulls to left, adjust RH control stop bolt CW (inward) to slow right wheel down.
483632

483632


DECK LATCH
RELEASE
FREEDOM Z
Made in the USA by SCAG
START/DRIVE PROCEDURE
-Engage parking brake
-Disengage mower deck drive
-Move control handles to neutral position
-Start Engine
-Release parking brake
-Select forward or reverse with hydro control levers
METALCRAFT OF MAYVILLE
PROUDLY MADE IN USA
MAYVILLE, WI
1 1/4 2 2 1/4 3 3 1/4 4
1 1/4 2 2 1/4 3 3 1/4 4
WARNING
AVOID SERIOUS INJURY OR DEATH
Read the Operators Manual
Solicite el(lados en español
Operate only on slopes you can backup
If machine stops going uphill, stop blades and back down slowly
Do not mow when children or others are around
Never carry children even with blades off
Look down and behind before and while backing
Keep safety devices (guards, shields, switches, etc.) in place and working
Remove objects that could be thrown by the blades
Trained operators only
483467

483467

2008 SFZ Safety Decals Rev.1

# SPECIFICATIONS

## 3.1 ENGINE

| | |
|---|---|
| General Type | Heavy Duty Industrial/Commercial Gasoline |
| Brand | Briggs & Statton, Kawasaki |
| Horsepower | 19 HP (Spec.#FH580V-AW00-R)<br>(Scag Model SFZ48-19KA, SFZ52-19KA)<br>26 HP (Spec.#44P7770117E1 )<br>(Scag Model SFZ48-26BS, SFZ52-26BS) |
| Cylinders | 2 with Cast Iron Sleeves |
| Governor | Mechanical Type with Variable Speed Control Set At 3600 RPM |
| Idle Speed | 1750 RPM - Briggs & Stratton<br>1550 RPM - Kawasaki |
| Fuel Pump Group | Integral Fuel Pump with In-Line Fuel Filter |
| Fuel | Non-Leaded Gasoline with a Minimum Octane Rating of 87 |
| Oil Pump Group | Positive Displacement Gerotor™ Oil Pump |
| Starter | Electric Starting with Bendix Shift Starter |
| Belts: | Kevlar cord. Self-adjusting, Self-tightening |
| Pump Drive Belt | Scag Part Number - 483314 |

## 3.2 ELECTRICAL

| | |
|---|---|
| Battery | 12 Volt |
| Charging System | Alternator |
| Charging Output | 12 Volt, 16Amp |
| System Polarity | Negative Ground |
| Starter | 12 Volt Electric Ring Gear Type, Key Operated |
| Interlock Switches | Seat, Neutral Control, Mower Engagement (BBC), Parking Brake |
| Instrument Panel | Key Switch, Throttle Lever, Manual Choke, PTO Switch |
| Fuses | Two (2) 20 Amp, Sealed |

## 3.3 TRACTOR

| | |
|---|---|
| Drive System | Hydraulic Drive with Two Hydro-Gear™ ZT2800 Integraded Zero-Turn Transaxle |
| Steering/Travel Control | Twin Lever Fingertip Steering Control with Individual Control to Each Wheel with Gas Spring Dampers |
| Parking Brake | Lever Actuated Linkage to Brakes on Both Drive Wheel Axles |
| Wheels: | |
| (2) Front Caster | 11 X 4.5-5 Two-Ply |
| (2) Drive | 20 X 10-8 Two-Ply Pneumatic Tubeless, Radius Edge |
| Tire Pressure: | |
| Front Caster | 25PSI |
| Drive | 8 PSI |
| Fuel Tank | Single 7-Gallon Seamless Polyethylene Tank with large opening and Fuel Cap |
| Seat | Padded, Thick Cushion with Extra Spring Support |

## 3.3 TRACTOR (CONT'D)

Travel Speed:
- Forward ..... 0-8 MPH
- Reverse ..... 0-5 MPH

**-NOTE-**

*The machine will travel at 8 mph for transport purposes. For best cutting performance the forward travel speed should be adjusted depending upon the cutting conditions.*

## 3.4 CUTTER DECK

Type: ..... Floating, Adjustable, Anti-scalping, Hybrid Design Combines Out-front and Belly-mount Designs
Construction: ..... 10-Gauge top with 11-Gauge reinforcement throughout the spindle area, 7-Gauge skirt for strength and longevity.
True Cutting Width: ..... 48" (122.0 cm), 52" (132.0 cm)
Cutting Height Adjustment: ..... Foot Operated Lever Adjustment from Operator's Seat, 1.00" to 4.5" in 1/4"increments
Cutter Blades: ..... .197 Thick, Milled Edge, Wear Resistant Marbain™
Blade Engagement: ..... Electric Blade Engagement Clutch with Control Panel Switch Connected to the Cutter Deck via Belt.
Discharge Opening: ..... Extra Wide Discharge Opening with Spring Loaded Discharge Chute
Spindles: ..... Heavy-duty Spindle Shaft, Cast Aluminum Housing, Sealed Ball Bearing, Maintenance-Free
Spindle Pulleys: ..... Split Steel
Cutter Deck Belts: ..... B-section with Kevlar Cord. Self-adjusting, Self-tightening
Electric Clutch Type ..... Ogura Heavy Duty PTO Clutch Brake

## 3.6 HYDRAULIC SYSTEM

Hydraulic Oil Filter ..... 40 Micron Spin-on Element Type
Hydraulic Reservoir ..... Nylon

## 3.7 PRODUCTIVITY

The following chart will aid you in determining how many acres your Scag mower will cut per day.

The chart is an estimate based on 8 hours per day cutting time at 6 MPH with a 20% allowance for overlap and turns.

| **Cutting Width:** | 48" | 52" |
|---|---|---|
| **Acres Per Day:** | 18.6 | 20.2 |

# OPERATING INSTRUCTIONS

**⚠ CAUTION:**

**Do not attempt to operate this mower unless you have read this manual. Learn the location and purpose of all controls and instruments before you operate this mower.**

## 4.1 CONTROLS AND INSTRUMENT IDENTIFICATION

Before operating the mower, familiarize yourself with all mower and engine controls. Knowing the location, function and operation of these controls is important for safe and efficient operation of the mower.

1. **Ignition Switch (Figure 4-1).** Used to start the engine and has three positions; OFF, ON, and START.
2. **Mower Deck Switch (Figure 4-1).** Used to engage and disengage the mower drive system. Pulling up on the switch will engage the deck drive. Pushing down on the switch will disengage the deck drive.
3. **Engine Choke Control (Figure 4-1).** Used to start a cold engine.
4. **Engine Throttle Control (Figure 4-1).** Used to control the engine speed. Pulling the lever back decreases engine speed. Pushing the lever forward increases engine speed. Full forward position is the cutting position. Full back is the IDLE position.
5. **Fuel Gauge (Figure 4-1).** Indicates the amount of fuel in the fuel tank.

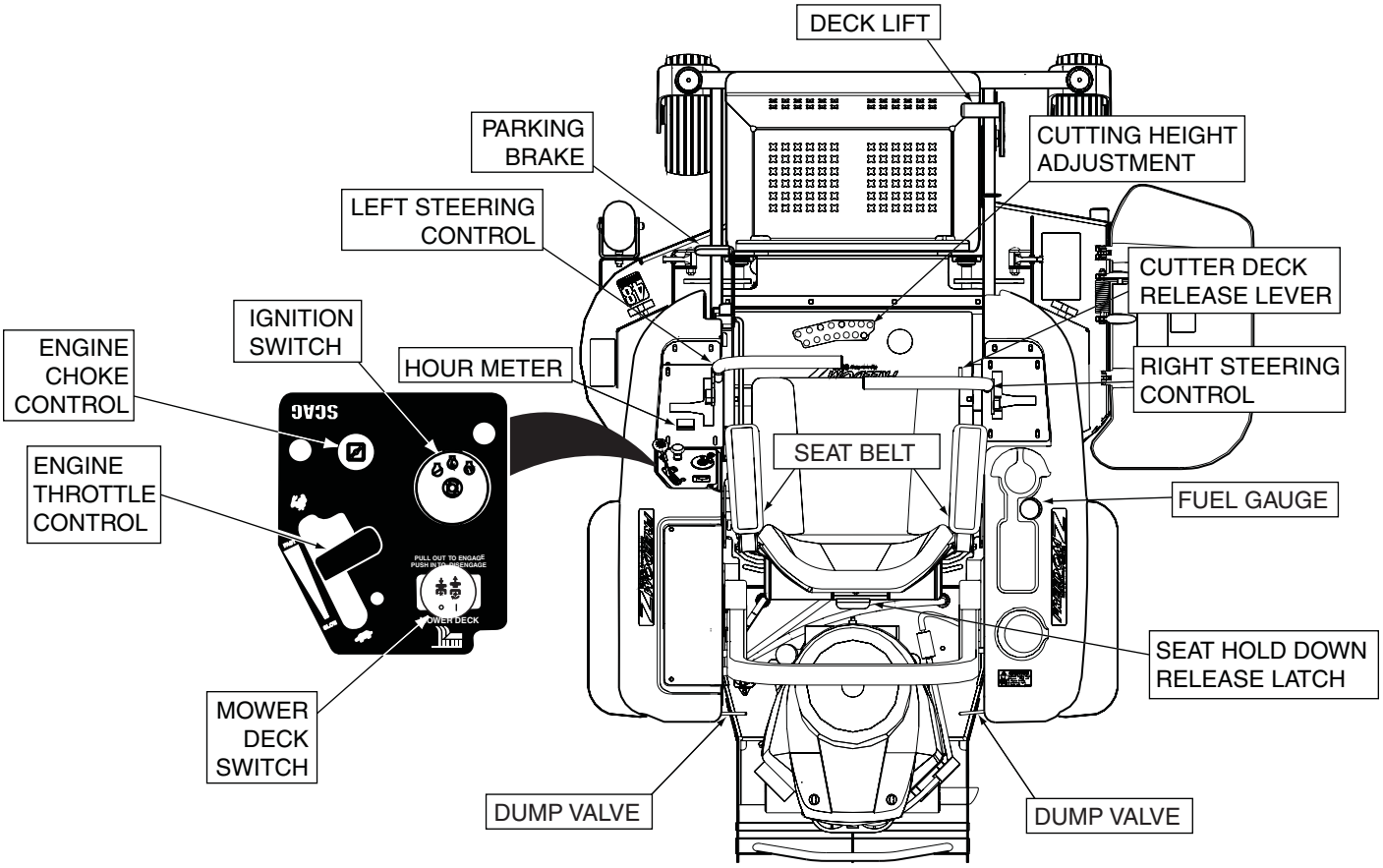



**Figure 4-1 Controls and Instruments**

6. **Hourmeter (Figure 4-1).** Indicates the number of hours the engine has been operated. It operates whenever the ignition key switch is in the ON position. Has preset maintenance reminders for engine and hydraulic system oil changes. Will start flashing scheduled maintenance 2 hours before preset time and continue flashing until 2 hours after. Automatically resets.

7. **Fuse Holders (Figure 4-1).** Two 20-amp fuses protect the mower's electrical system. To replace fuses, pull fuse out of the socket and install a new fuse.

8. **Left Steering Control (Figure 4-1).** Used to control the mower's left wheel when traveling forward or reverse.

9. **Right Steering Control (Figure 4-1).** Used to control the mower's right wheel when traveling forward or reverse.

10. **Parking Brake Control (Figure 4-1).** Used to engage and disengage the parking brakes. Pull the lever back to engage the parking brakes. Push the lever forward to disengage the parking brakes.

11. **Dump Valve Control Levers (Figure 4-2).** Located on the left and right side of the rear bumper, used to "free-wheel" the mower. Rotating the levers forward into the notch (towards the front of the mower) allows the unit to move under hydraulic power. Rotating the levers backward to the notch (towards the rear of the mower) allows the mower to be moved by hand (free-wheeling).

12. **Deck Lift Foot Lever (Figure 4-1).** Used to raise and lower the cutter deck.

13. **Cutting Height Adjustment (Figure 4-1).** Used to set the cutter deck at the desired cutting height.

14. **Cutter Deck Release Lever (Figure 4-1).** Used to lock the cutter deck in the transport position. Push the foot pedal forward and pull back on the release lever to release the cutter deck for normal mowing.

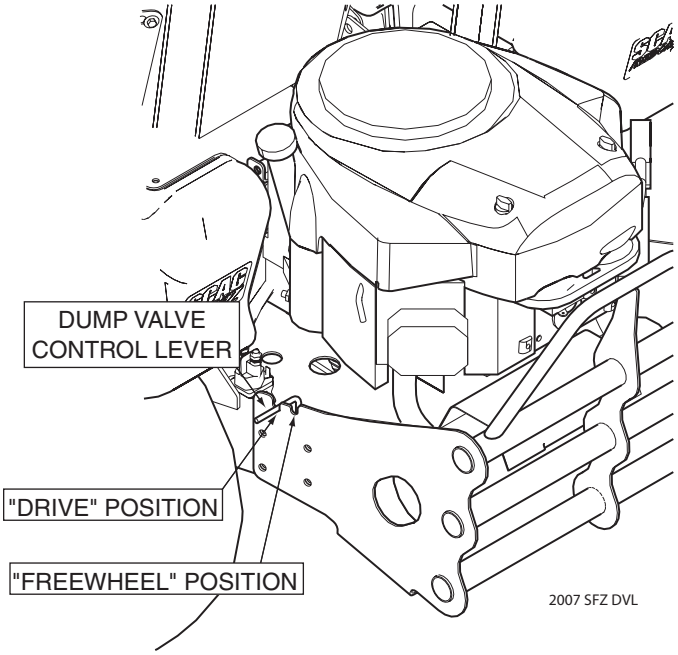



**Figure 4-2 Dump Valve Control**

15. **Seat Belt (Figure 4-1).** Used to secure the operator. Seat belt must be worn at all times during operation.

16. **Seat Hold Down Release Latch (Figure 4-1).** Located behind the seat. Used to secure the seat in the operator's position. Release the latch to gain access under the seat.

## 4.2 SAFETY INTERLOCK SYSTEM

The mower is equipped with a safety interlock system that prevents the engine from starting unless the deck drive is disengaged, the steering control levers are in the neutral position and the operator is in the seat. The interlock system shuts off the engine if the operator leaves the seat with the steering control levers not in the neutral position and/or the cutter blades engaged and/or the parking brake not engaged.

**⚠ WARNING:**

**Never operate the mower with the interlock system disconnected or malfunctioning. Do not disengage or bypass any switch; injury to yourself and/or others or property damage could result.**

## 4.3 INITIAL RUN-IN PROCEDURES (First Day of Use or Approximately 20 Hours)

1. Check all belts for proper alignment and wear at 2, 4 and 8 hours.

2. Change the engine oil and oil filter after the first 20 hours of operation. (See Section 7.3)

3. Check hydraulic oil level in reservoir. (See Section 7.2)

4. Check for loose hardware. Tighten as needed.

5. Check interlock system for proper operation. (See Section 4.2)

6. Check tire pressure. Adjust pressure if necessary. (See Section 7.9)

## 4.4 STARTING THE ENGINE

**⚠ CAUTION:**

**DO NOT USE STARTING FLUIDS. Use of starting fluids in the air intake system may be potentially explosive or cause a "runaway" engine condition that could result in engine damage and/or personal injury.**

1. Sit in the operator's seat, fasten seat belt and place the steering control levers in the neutral position.

2. Engage the parking brake.

3. If the engine is cold, choke the engine as needed.

4. Move the engine throttle control to about half engine speed.

5. Turn the ignition key to the START position and release the key as soon as the engine starts. Do not hold the key in the START position for more than 15 seconds at a time. Allow at least 60 seconds between each cranking attempt to prevent overheating of the starter motor. Prolonged cranking can damage the starter motor and shorten battery life.

6. Allow engine to warm before operating the mower.

## 4.5 GROUND TRAVEL AND STEERING

***-IMPORTANT-***

*If you are not familiar with the operation of a machine with lever steering and/or hydrostatic transmissions, the steering and ground speed operations should be learned and practiced in an open area, away from buildings, fences, or obstructions. Practice until you are comfortable with the handling of the machine before attempting to mow. Learn the operation on flat ground before operating on slopes.*

***-IMPORTANT-***

*Start practicing with a slow engine speed and slow forward travel. Learn to feather the steering controls to obtain a smooth operating action.*

### Forward Travel

To travel forward with the mower, disengage the parking brake, pull levers inward out of the neutral lock position and slowly push the steering control levers forward an equal distance. The further the steering control levers are pushed forward the greater the forward speed will be. To increase the speed, push the steering control levers further forward and to decrease the speed, pull the steering control levers back.

To stop the forward travel, pull the steering control levers back to the neutral position.

To steer the mower left while traveling forward, pull the left steering lever back. The further the lever is pulled back, the quicker the mower will turn left.

To steer the mower right while traveling forward, pull the right steering control lever back. The further the lever is pulled back, the quicker the mower will turn right.

***-NOTE-***

*Smooth operation of the steering levers will produce smooth mower operation. While learning the operation of the steering controls, keep the travel speed low.*

***-IMPORTANT-***

*Do not travel forward over a curb. The mower may hang up on the curb. Raise the deck and travel backwards over the curb at a 45 degree angle. (see Section 4.1, item 12 for cutter deck raising instructions)*

### Reverse Travel

**⚠ CAUTION:**

**Disengage power to the mower before backing up. Do not mow in reverse unless absolutely necessary and then only after observation of the entire area behind the mower.**

**⚠ CAUTION:**

**Before backing up, observe the rear for persons and obstructions. Clear the area before backing up. Possible injury or property damage could occur.**

To travel in reverse, pull levers inward out of the neutral lock position and pull both handles back. Keep the travel speed low while traveling in reverse.

***-NOTE-***

*The mower may not travel straight in reverse. Slight adjustments must be made using the steering controls.*

To steer left while traveling in reverse, allow the left steering control lever to move forward. The further the control is allowed to move forward, the quicker the mower will turn left.

To steer right while traveling in reverse, allow the right steering control lever to move forward. The further the control is allowed to move forward, the quicker the mower will turn right.

To stop the reverse travel, allow the steering control levers to return to the neutral position. If the mower is to be parked, place the handles in the neutral lock position and engage the parking brake.

## 4.6 ENGAGING THE DECK DRIVE (CUTTER BLADES)

1. Set the throttle at about 3/4 speed. Do not attempt to engage the deck drive at high speed as this shortens the electric clutch life — use only moderate engine speed when engaging the deck drive.

2. Engage the deck drive by pulling out on the yellow switch, located on the instrument panel, (Figure 4-3) to the engage position.

***-NOTE-***

*A squealing noise may be heard when engaging or disengaging the deck drive. It is caused by the electric clutch plates meshing as the mower comes up to speed. This is normal.*

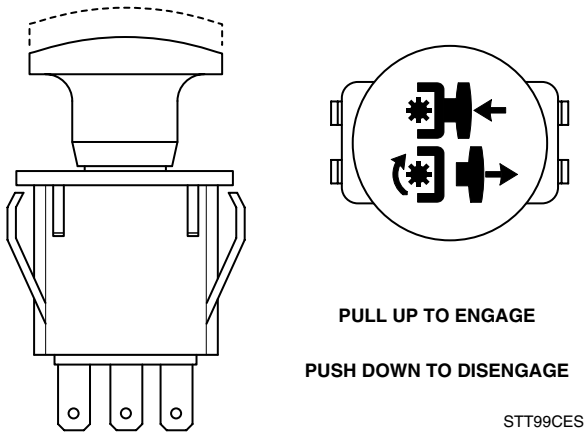



**Figure 4-3 Cutter Engage Switch**

3. To disengage the deck drive, push the switch in to the disengage position.

4. Always operate the engine at full throttle to properly maintain cutting speed. If the engine starts to lug down, reduce the forward speed and allow the engine to operate at maximum RPM.

## 4.7 HILLSIDE OPERATION

**⚠ WARNING:**

**DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. Under no circumstances should the machine be operated on slopes greater than 15 degrees. ALWAYS FOLLOW OSHA APPROVED OPERATION.**

1. This mower has been designed for good traction and stability under normal mowing conditions. However, caution must be used when traveling on slopes, especially when the grass is wet. Wet grass reduces traction and steering control. The Roll-Over Protection System is standard equipment for this machine. See Section 2.5, page 7 of this manual for further details.

2. To prevent tipping or loss of control, do not start or stop suddenly, avoid unnecessary turns and travel at reduced speed. If tires lose traction, disengage blades and proceed slowly off the slope.

3. Avoid sudden starts when mowing uphill. Sudden starts may cause the machine to tip backwards.

4. Loss of traction may occur when traveling down hill. Weight transfers to the front of the machine and may cause the drive wheels to slip causing loss of braking or steering.

5. Keep tires properly inflated.

## 4.8 PARKING THE MOWER

1. Park the machine on a flat, level surface only. Do not park the machine on an incline.

2. Place the steering control levers in the neutral position.

3. Disengage the cutter blades.

4. Slow the engine to idle speed.

5. Engage the parking brake.

6. Turn the ignition key to the OFF position and remove the key.

## 4.9 AFTER OPERATION

1. Wash the entire mower after each use. Do not use high pressure spray or direct the spray onto electrical components.

***-IMPORTANT-***

*Do not wash a hot or running engine. Cold water will damage the engine. Use compressed air to clean the engine if it is hot.*

2. Keep the entire mower clean to inhibit serious heat damage to the engine or hydraulic oil circuit.

3. Check the drive belts for proper alignment and any signs of wear. Correct and adjust if necessary.

4. Check the tire pressure. Adjust pressure if necessary.

## 4.10 REMOVING CLOGGED MATERIAL

**⚠ DANGER:**

**ROTATING BLADES**

**NEVER PUT YOUR HANDS INTO THE DISCHARGE CHUTE FOR ANY REASON! Shut off the engine and remove the key and only then use a stick or similar object to remove material if clogging has occurred.**

1. If the discharge chute becomes clogged, shut off the engine and remove the ignition key. Using a stick or similar item, dislodge the clogged material. Then resume normal mowing.

## 4.11 MOVING MOWER WITH ENGINE STOPPED

To "free-wheel" or move the mower around without the engine running, place the dump valve levers in the FREE-WHEEL position (Figure 4-2, page 13). Disengage the parking brake and move the mower by hand. The dump valve levers must be returned to the DRIVE position to drive the mower.

## 4.12 RECOMMENDATIONS FOR MOWING

1. Do not mow with dull blades. A dull blade will tear grass, resulting in poor lawn appearance and require extra power.

2. The discharge chute must not be removed and must be kept in the lowest position to deflect grass clippings and thrown objects downward. Direct the side discharge away from sidewalks or streets to minimize cleanup of clippings. When mowing close to obstacles, direct the discharge away from the obstacles to reduce the chance of property damage by thrown objects.

**⚠ WARNING**

**DO NOT OPERATE WITHOUT DISCHARGE CHUTE, MULCHING KIT, OR ENTIRE GRASS CATCHER INSTALLED**

3. Cut grass when it is dry and not too tall. Do not cut grass too short (cut off 1/3 or less of existing grass for best appearance). Mow frequently.

4. Keep mower and discharge chute clean.

5. When mowing wet or tall grass, mow the grass twice. Raise the mower to the highest setting for the first pass and then make a second pass to the desired height.

6. Use a slow travel speed for trimming purposes.

7. Operate the engine at full throttle for best cutting. Mowing with a lower RPM causes the mower to tear the grass. The engine is designed to be operated at full speed.

8. Use an alternate stripe pattern for best lawn appearance. Vary the direction of the stripe each time the grass is mowed to avoid wear patterns in the grass.

## 4.13 ADJUSTING CUTTING HEIGHT

The mower deck can be adjusted from a height of 1- inch to 4-1/2 inches at 1/4-inch intervals. To adjust the cutting height:

**⚠ WARNING:**

**DO NOT adjust the cutting height with the mower blades rotating. Disengage the power to the cutter blades and then adjust cutting height.**

1. Disengage the power to the cutter blades.

2. Push the cutting height adjustment foot pedal all the way forward using your right foot until it locks in place. (Figure 4-4, page 18)

3. Insert the pin into the cutting height index at the desired cutting height. Push forward on the deck lift foot lever, hold in place and lift up on the deck release lever, (Figure 4-4). Slowly release the foot pedal. A deck height decal is located on the cutting height index as an aid in adjusting the deck to the desired height. (Figure 4-4)

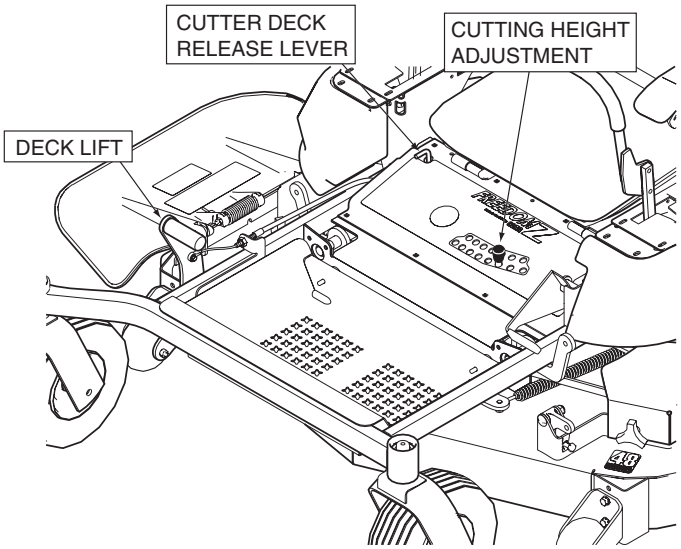



**Figure 4-4 Cutter Deck Height Adgustment**

## 4.14 TOWING (opt. hitch accessory p/n 9296)

1. **NEVER** allow children or others in or on towed equipment.

2. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the hitch point.

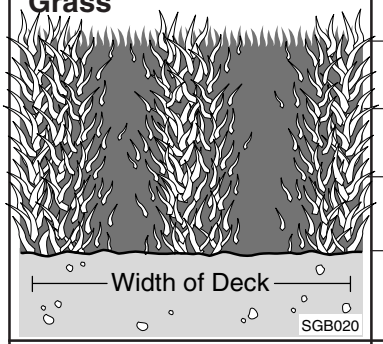
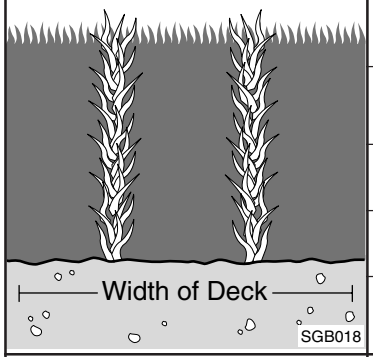
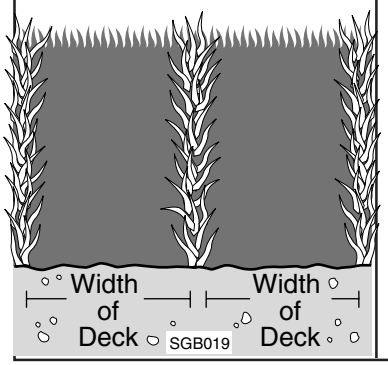
3. Follow manufacturer's recommendations for weight limit for towed equipment. 250lbs. maximum towing weight.

4. **NEVER TOW ON SLOPES**. The weight of the towed equipment may cause loss of traction and loss of control.

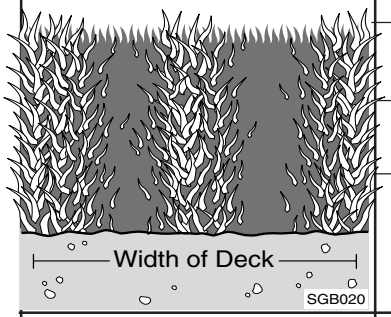
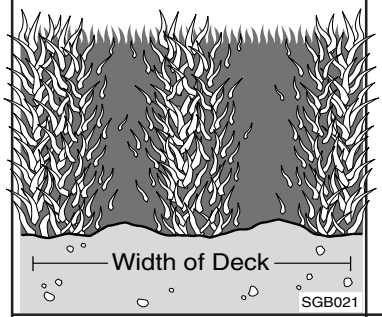
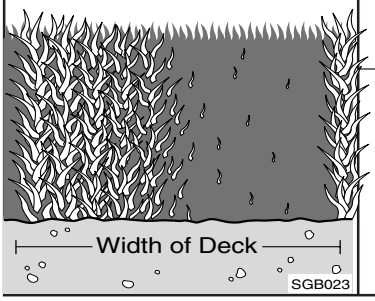
5. Travel slowly and allow extra distance to stop.

6. Zero-turning with a trailer attached, could cause damage to the trailer or mower. Make turns with caution.

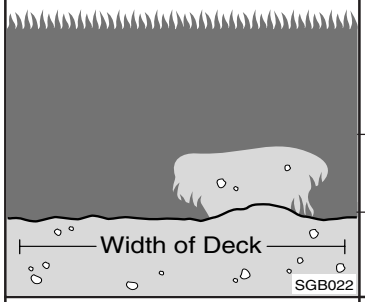
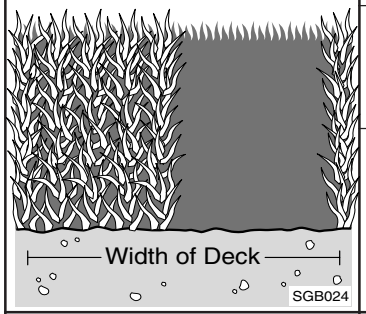
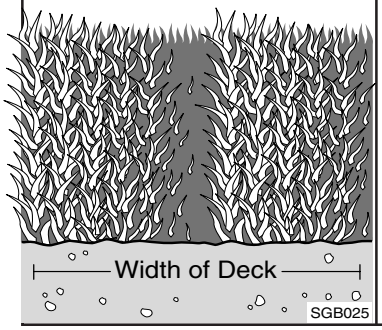
# TROUBLESHOOTING CUTTING CONDITIONS

| CONDITION | CAUSE | CURE |
|---|---|---|
| **Stringers - Occasional Blades of Uncut Grass**   | Low engine RPM | Run engine at full RPM |
| | Ground speed too fast | Slow speed to adjust for conditions |
| | Wet grass | Cut grass after it has dried out |
| | Dull blades, incorrect sharpening | Sharpen blades |
| | Deck plugged, grass accumulation | Clean underside of deck |
| | Belts slipping | Adjust belt tension |
| **Streaking - Strips of Uncut Grass in Cutting Path**   | Dull, worn blades | Sharpen blades |
| | Incorrect blade sharpening | Sharpen blades |
| | Low engine RPM | Run engine at full RPM |
| | Belt slipping | Adjust belt tension |
| | Deck plugged, grass accumulation | Clean underside of deck |
| | Ground speed too fast | Slow speed to adjust for conditions |
| | Wet grass | Cut grass after it has dried out |
| | Bent blades | Replace blades |
| **Streaking - Strips of Uncut Grass Between Cutting Paths**   | Not enough overlapping between rows | Increase the overlap of each pass |

## TROUBLESHOOTING (CONT'D)

| CONDITION | CAUSE | CURE |
|---|---|---|
| **Uneven Cut on Flat Ground - Wavy High-Low Appearance, Scalloped Cut, or Rough Contour**   | Lift worn from blade | Replace blade |
| | Blade upside down | Mount with cutting edge toward ground |
| | Deck plugged, grass accumulation | Clean underside of deck |
| | Too much blade angle (deck pitch) | Adjust pitch and level |
| | Deck mounted improperly | See your authorized SCAG dealer |
| | Bent spindle area | See your authorized SCAG dealer |
| | Dull blade | Sharpen blade |
| **Uneven Cut on Uneven Ground - Wavy Appearance, High-Low Scalloped Cut, or Rough Contour**   | Uneven ground | May need to reduce ground speed, raise cutting height, and/or change direction of cut |
| **Sloping Ridge Across Width of Cutting Path**   | Tire pressures not equal | Check and adjust tire pressure |
| | Wheels uneven | Check and adjust tire pressure |
| | Deck mounted incorrectly | See your authorized SCAG dealer |
| | Deck not level side-to side | Check for level and correct |

## TROUBLESHOOTING (CONT'D)

| CONDITION | CAUSE | CURE |
|---|---|---|
| **Scalping - Blades Hitting Dirt or Cutting Very Close to the Ground**   | Low tire pressures | Check and adjust pressures |
| | Ground speed too fast | Slow speed to adjust for conditions |
| | Cutting too low | May need to reduce ground speed, raise cutting height, change direction of cut, and/or change pitch and level |
| | Rough terrain | May need to reduce ground speed, raise cutting height, and/or change direction of cut |
| | Ground speed too fast | Slow speed to adjust for conditions |
| | Wet grass | Cut grass after it has dried out |
| **Step Cut - Ridge in Center of Cutting path**   | Blades not mounted evenly | Adjust pitch and level |
| | Bent blade | Replace blade |
| | Internal spindle failure | See your authorized SCAG dealer |
| | Mounting of spindle incorrect | See your authorized SCAG dealer |
| **Slope Cut - Sloping Ridges Across Width of Cutting Path**   | Bent spindle mounting area | See your authorized SCAG dealer |
| | Internal spindle failure | See your authorized SCAG dealer |
| | Bent deck housing | See your authorized SCAG dealer |

# ADJUSTMENTS

## 6.1 PARKING BRAKE ADJUSTMENT

**⚠ WARNING:**

**DO NOT operate the mower if the parking brake is not operable. Possible severe injury could result.**

The parking brake linkage should be adjusted whenever the parking brake lever is placed in the "ENGAGE" position and the parking brake will not prevent the mower from moving. If the following procedures do not allow you to engage the parking brake properly, contact your Scag dealer for further brake adjustments.

1. Park the machine on a flat surface and block the caster wheels to prevent the machine from moving. Remove the ignition key.

2. Disengage the parking brake. (See Figure 6-1).

3. Release the seat hold down latch and tilt the seat foward to gain access to the brake control linkage.

4. Remove the cotter pin securing the pivot to the brake control linkage. (See Figure 6-2).

5. Push down on the brake control rod to disengage the parking brake and adjust the pivot until it meets the mounting hole. Insert the pivot into the brake control linkage and secure with the cotter pin.

5. Repeat steps 4-5 on the LH side of the machine.

6. Test the brake.

*-NOTE-*

*If this procedure does not achieve proper brake adjustment, please contact your authorized Scag dealer.*

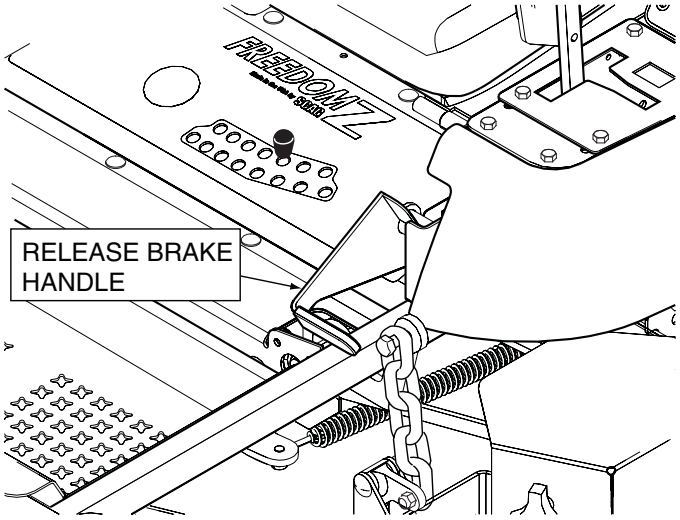



**Figure 6-1. Brake Adjustment**

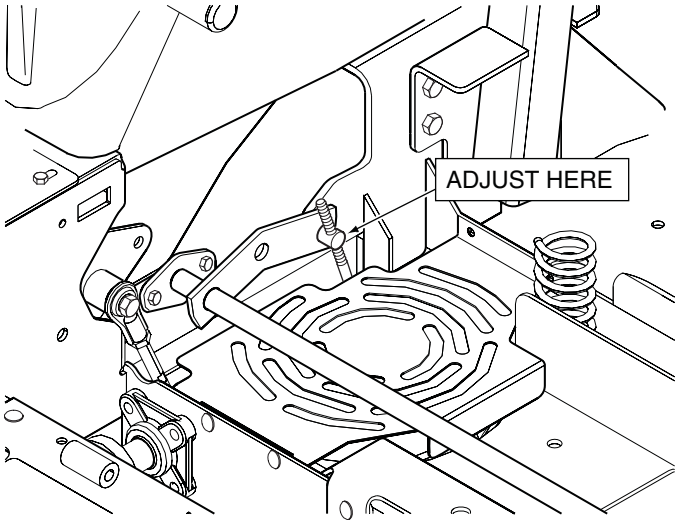



**Figure 6-2. Brake Rod Adjustment**

## 6.2 TRAVEL ADJUSTMENTS

Neutral or tracking adjustments will need to be made if:

A. The steering control levers are in the neutral position and the machine creeps forward or backward. (See Neutral Adjustment).

B. The steering control levers are in the full forward position and the mower pulls to one side or the other when traveling in a forward direction. (Tracking Adjustment, See Page 24).

### Neutral Adjustment

1. Be sure the dump valve levers are in the run position and the steering control levers are in the neutral lock position.

2. With an operator in the seat, start the engine and disengage the parking brake.

3. Run the engine at full operating speed and check if the machine creeps forward or backwards.

4. Tilt the seat forward and adjust the RH wheel by loosening the upper control linkage mounting bolt. (See Figure 6-3). Allow the transmission to position the control linkage.

5. Tighten the upper control linkage mounting bolt and repeat for the LH wheel.

6. Actuate the steering control levers forward and reverse several times and return them to the neutral position.

7. Check that the drive wheels remained in neutral and readjust if necessary.

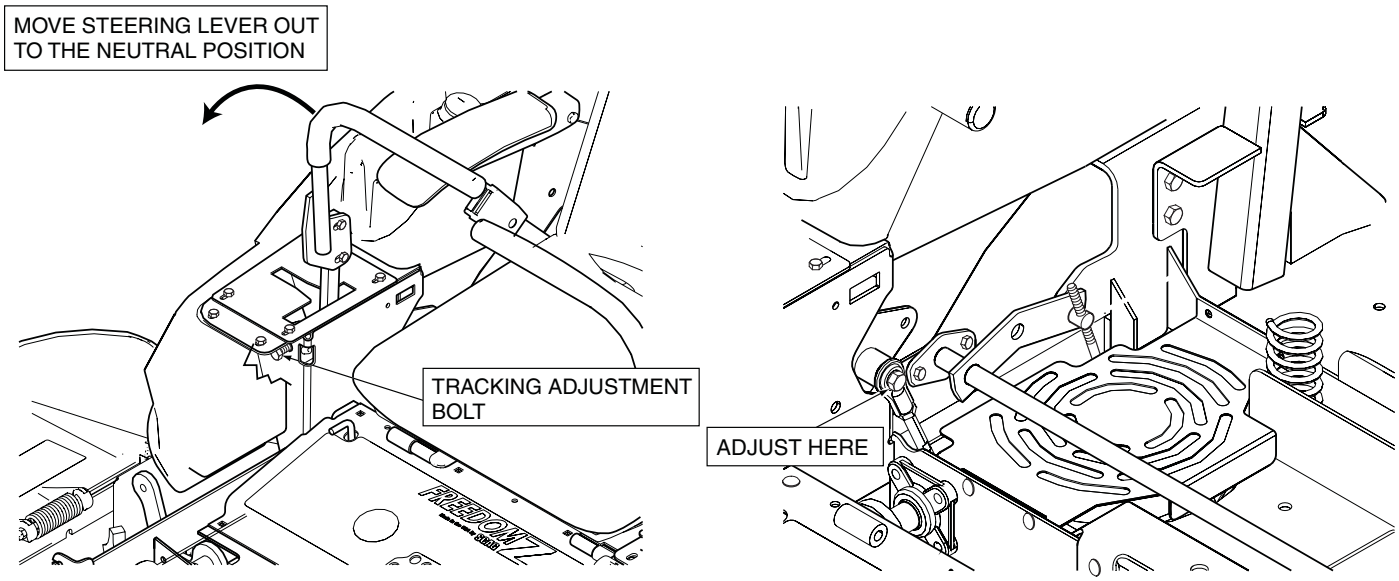



**Figure 6-3. Steering Control Adjustment**

### Tracking Adjustment

**⚠ CAUTION:**

**Stop the engine and remove the key from the ignition before making any adjustments. Wait for all moving parts to come to a complete stop before beginning work.**

**⚠ CAUTION:**

**The engine and drive unit can get hot during operation causing burn injuries. Allow engine and drive components to cool before making any adjustments.**

*-NOTE-*

*Before proceeding with this adjustment, be sure that the caster wheels turn freely and that the tire pressure in the drive wheels is correct. If the tire pressure is not correct, the machine will pull to the side with the lower pressure.*

1. If at full speed the mower pulls right, it is an indication that the left wheel is turning faster than the right wheel. To adjust this condition, proceed as follows:

   A. Stop the machine and place the steering control levers in the neutral position. Turn the tracking adjustment bolt for the LH pump inward (clockwise). This will cause the control rod to stroke the LH pump less, slowing down the LH wheel. (See Figure 6-3, Page 23).

2. If at full speed the mower pulls left, it is an indication that the right wheel is turning faster than the left wheel. To adjust this condition, proceed as follows:

   A. Stop the machine and place the steering control levers in the neutral position. Turn the tracking adjustment bolt for the RH pump inward (clockwise). This will cause the control rod to stroke the RH pump less, slowing down the RH wheel. (See Figure 6-3).

*-NOTE-*

*If making the adjustments as outlined do not correct the tracking or neutral, contact your local Authorized Scag Power Equipment Dealer.*

## 6.3 THROTTLE CONTROL AND CHOKE ADJUSTMENTS

These adjustments must be performed by your Scag dealer to ensure proper and efficient running of the engine. Should either need adjustment, contact your authorized Scag service center.

## 6.4 BELT ADJUSTMENT

**⚠ WARNING:**

**Before removing any guards, shut the engine off and remove the ignition key.**

All drive belts and cutter deck belts are spring-loaded and self-tensioning. The belts should be checked periodically for proper alignment and wear.

## 6.5 BELT ALIGNMENT

Belt alignment is important for proper performance of your Scag mower. If you experience frequent belt wear or breakage, see your authorized Scag service center for belt adjustment.

## 6.6 CUTTER DECK ADJUSTMENTS

Cutter deck level, pitch and height are set at the factory. However, if these adjustments should ever need to be made, the following procedures will aid in obtaining the proper cutter deck adjustment.

***-NOTE-***

*Before proceeding with the cutter deck adjustments, be sure that all tires are properly inflated.*

### Cutter Deck Level

The cutter deck should be level from side to side for proper cutting performance. To check for level, be sure that the mower is on a flat, level surface, the tires are properly inflated and the cutter deck is set at the most common cutting height that you will use. On the RH side of the machine, check the distance from the top of the cutter deck to the floor. Next check the distance from the top of the cutter deck to the floor on the LH side of the machine. Both measurements should be the same. If the two measurements are different, the cutter deck level must be adjusted as follows:

1. If the cutter deck is lower on one side, loosen the elastic stop nuts securing the deck level links on the front and rear of the lower side. (See Figure 6-4).

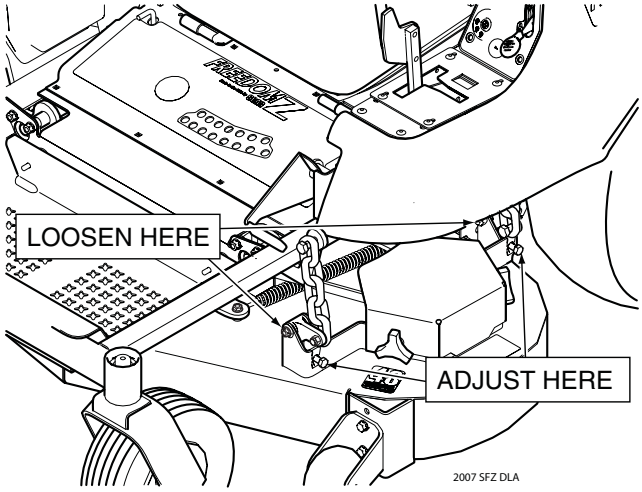



**Figure 6-4. Cutter Deck Level Adjustment**

2. Turn the adjustment bolts on the front and rear deck level link clockwise until the cutter deck is level between both sides. (See Figure 6-4).
3. Tighten the two elastic stop nuts to secure the cutter deck in the proper position.

### Cutter Deck Pitch

The pitch of the cutter deck should be equal between the front and rear of the cutter deck for proper cutting performance. To check for proper deck pitch, be sure that the mower is on a flat, level surface and the tires are properly inflated.

Check the distance from the top of the cutter deck to the floor at the rear RH side of the cutter deck directly behind the cutter deck hanging chains. Next check the distance from the top of the cutter deck to the floor at the front RH side of the cutter deck directly in front of the cutter deck hanging chains. The measurement at the front of the cutter deck should be the same as the rear of the deck. Make these measurements at the LH side of the cutter deck also. If the measurement at the front of the deck is not the same, the cutter deck pitch must be adjusted as follows:

1. Loosen the elastic stop nuts securing the deck level links on front of the cutter deck on both sides (See Figure 6-5, Figure 6-6).
2. Turn the adjustment bolts on both side either clockwise to raise or counterclockwise to lower the front of the cutter deck until the measurements are equal. Tighten the elastic stop nuts.

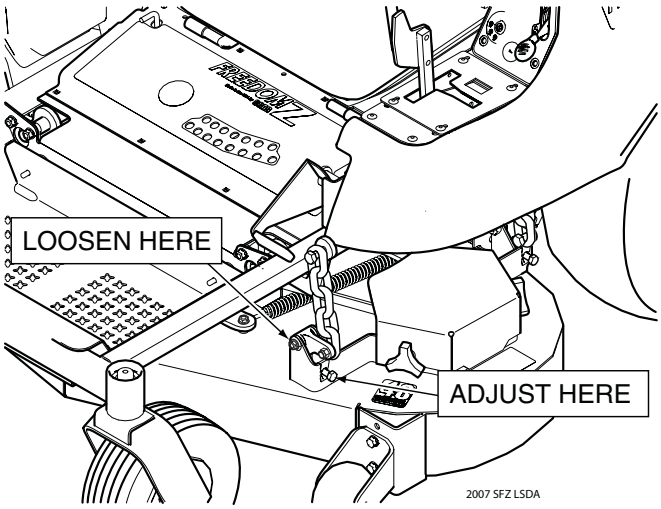
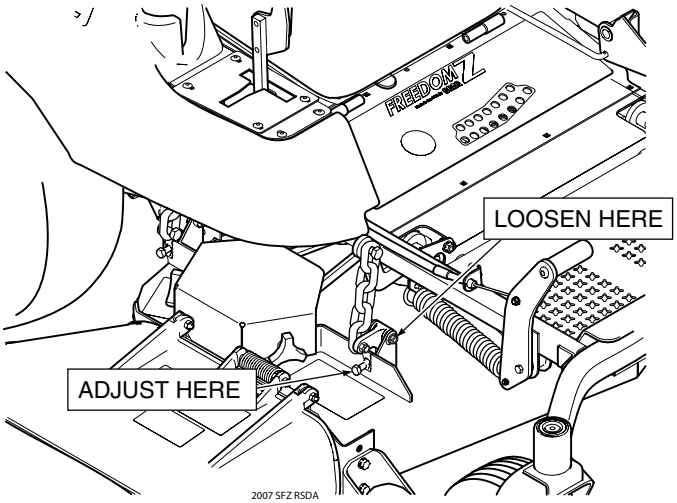



**Figure 6-5. Cutter DeckPitch Adjustment**



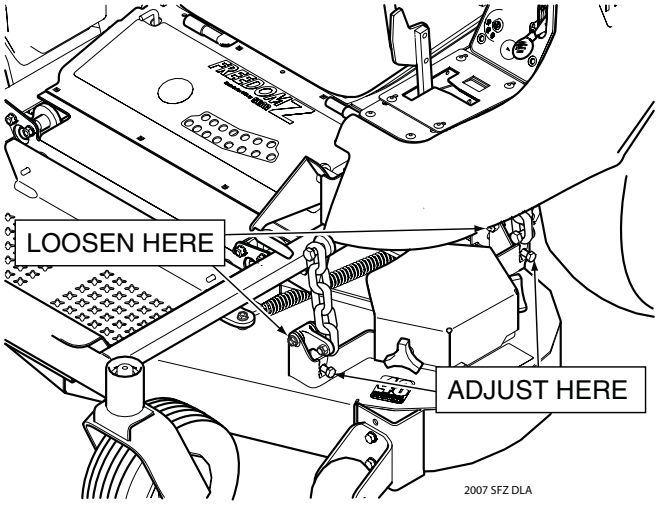




**Figure 6-6. Cutter Deck Pitch Adjustment**

***-NOTE-***

*To prevent the cutter deck from teetering, all four cutter deck hanging chains must have tension on them. If all four chains do not have tension on them and the deck teeters, you must readjust the cutter deck as outlined in the procedures above. The measurements should be taken from the top edge of the deck as the deck has an uneven bottom edge.*

## Cutter Deck Height

The cutter deck height adjustment is made to ensure that the cutter deck is cutting at the height indicated on the cutting height index gauge. To check for proper deck height, be sure that the mower is on a flat, level surface and the tires are properly inflated.

1. Place the cutter deck in the 3" cutting position. Push on the cutter deck foot pedal and pull up on the cutter deck release lever to lower the cutter deck.

2. Check the measurement from the floor to the cutter blade tip. If the measurement is not at 3", an adjustment can be made using the deck height control rod.

3. Loosen the elastic stop nuts securing the deck level links on both sides of the cutter deck. (See Figure 6-7)

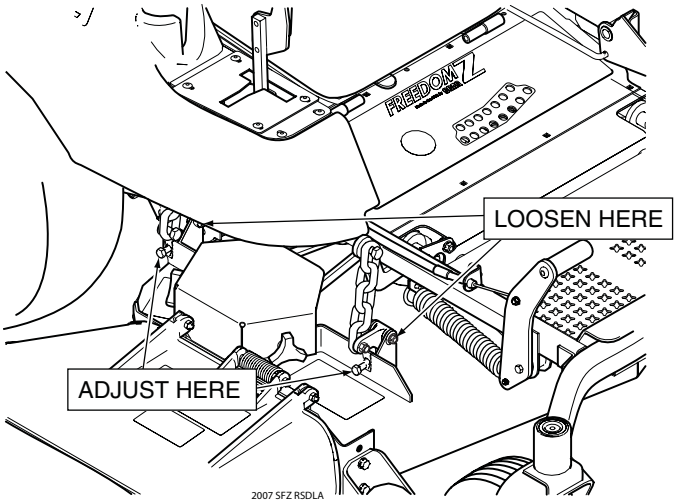



**Figure 6-7. Cutter Deck Height Adjustment**

4. Turn the adjustment bolts equal amount of turns either clockwise to raise or counterclockwise to lower the cutter deck until the measurement at the cutter blade is 3" on both sides.

4. Tighten the elastic stop nuts on the deck level links.

***-NOTE-***

*If an adjustment had to be made, be sure that the cutter deck can easily be locked into the transport position.*

# MAINTENANCE

## 7.1 MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS

| HOURS | | | | | | | Procedure | Comments |
|---|---|---|---|---|---|---|---|---|
| Break-In (First 10) | 8 | 20 | 40 | 100 | 200 | 400 | | |
| X | | | | | | | Check all hardware for tightness | |
| X | | | | | | | Check hydraulic oil level | See paragraph 7.2 |
| X | | | | | | | Check all belts for proper alignment | See paragraph 7.7 |
| X | | | | | | | Check hydraulic hoses for leaks | Use extreme caution when checking the hydraulic hoses See paragraph 2.6 |
| | X | | | | | | Check seat belts for damage | See paragraph 2.5 |
| | X | | | | | | Check engine oil level | See paragraph 7.3 |
| | X | | | | | | *Clean mower | See paragraph 7.10 |
| | X | | | | | | Check condition of blades | See paragraph 7.8 |
| | X | | | | | | Check tire pressure | See paragraph 7.9 |
| | X | | | | | | Check Operator Presence System | See paragraph 2.3 |
| | | X | | | | | Change engine oil and filter | See paragraph 7.3 |
| | | | X | | | | Check battery, clean battery posts and cables | See paragraph 7.6 |
| | | | X | | | | Check belts for proper alignment | See paragraph 7.7 |
| | | | | X | | | Change engine oil | See paragraph 7.3 |
| | | | | X | | | Drain hydraulic system, replace hydraulic oil and filters | See paragraph 7.2 Use SAE 20W50 Motor Oil |
| | | | | X | | | *Clean air cleaner element | See paragraph 7.5 |
| | | | | | X | | Check hardware for tightness | |
| | | | | | X | | Change engine oil and filter | See paragraph 7.3 |
| | | | | | X | | Check hydraulic oil level | See paragraph 7.2 |
| | | | | | | X | Replace engine fuel filter | See paragraph 7.4 |
| | | | | | | X | Drain hydraulic system, replace hydraulic oil and filters | See paragraph 7.2 Use SAE 20W50 Motor Oil |
| | | | | | | X | Adjust electric PTO clutch | See Scag Dealer |

*** Perform these maintenance procedures more frequently under extreme dusty or dirty conditions.**

## 7.2 HYDRAULIC SYSTEM

### A. Checking Hydraulic System Oil Level

The hydraulic system oil level should be checked after the first 10 hours of operation. Thereafter, check the oil after every 200 hours of machine operation or monthly, whichever occurs first.

***-IMPORTANT-***

*If the oil level is consistently low, check for leaks and correct immediately.*

1. Wipe dirt and contaminants from around the reservoir.

2. When the machine is "cold" (before operation), visually check the level of hydraulic system oil. Hydraulic system oil level should be in the middle of the indicator window located on the left side of the machine (See Figure 7-2) . If the fluid is low, add 20W50 motor oil until the proper level is achieved. DO NOT overfill; (overfilling the oil reservoir may cause oil seepage).

3. Clean the fill cap and install it onto the reservoir.

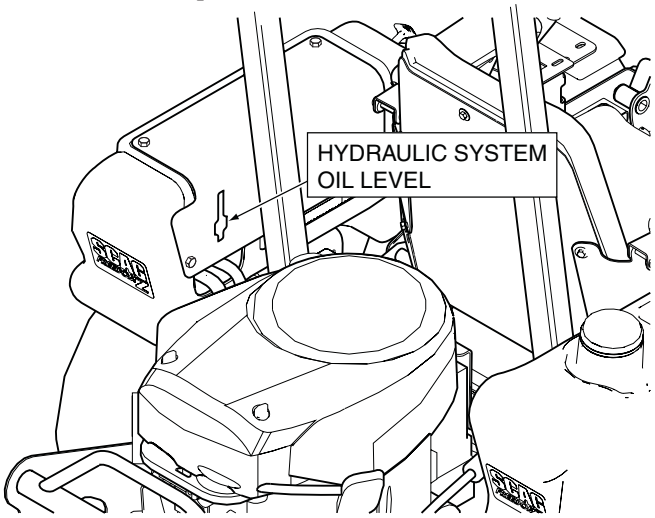



**Figure 7-2 Hydraulic System Oil Level**

### B. Changing Hydraulic Oil

The hydraulic system oil should be changed after the first 120 hours of machine operation and every 400 hours or annually thereafter, whichever occurs first. The oil should also be changed if the color of the fluid has become black or milky. A black color and/or a rancid odor usually indicates possible overheating of the oil, and a milky color usually indicates water in the hydraulic oil.

***-IMPORTANT-***

*The hydraulic system oil should be changed if you notice the presence of water or a rancid odor to the hydraulic oil.*

1. Park the mower on a level surface and stop the engine.

2. Remove the three 1/4” filter guard screws and filter guard from both axles. (See Figure 7-3). Clean any loose debris from around the perimeter of the filter.

3. Place a suitable container under the hydraulic oil filters. Remove the cover from the left side tank to gain access to the hydraulic reservoir. Remove the fill cap from the reservoir.

4. Remove the hydraulic filters from both axles and allow the fluid to drain into the container. Properly discard the oil when the system has drained completely. (See Figure 7-3)

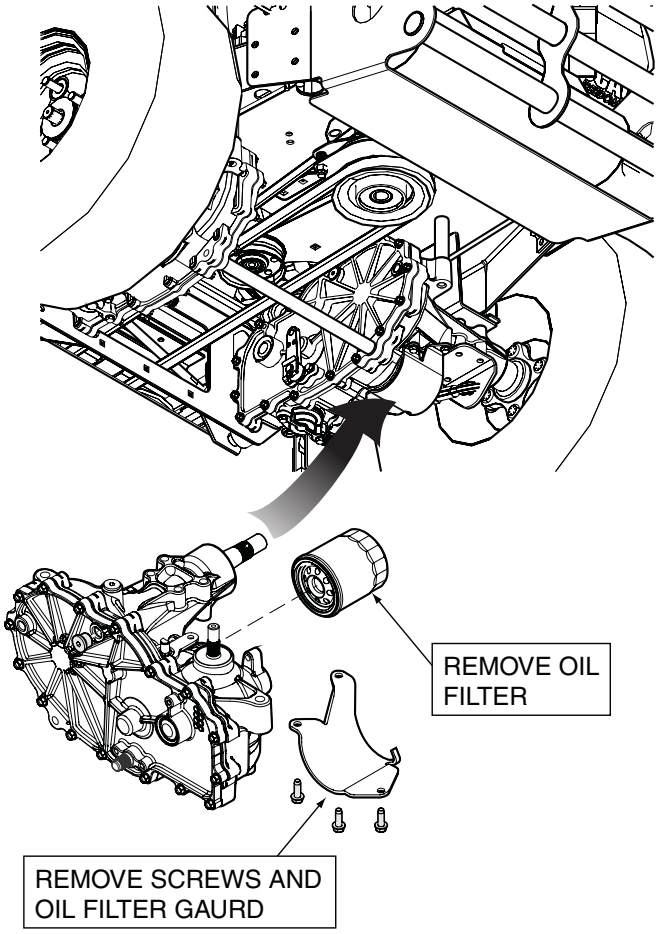



**Figure 7-3 Hydraulic Oil Filter and Drain Plug**

5. Once the hydraulic system has drained, install new hydraulic oil filters to both axles by hand, turn 3/4 to one complete turn after the filter gasket contacts the filter base.

6. Reinstall the filter guards and torque the screws to 65 in/lbs.

7. Remove the top port plug from both axles before filling with oil. (See Figure 7-4).

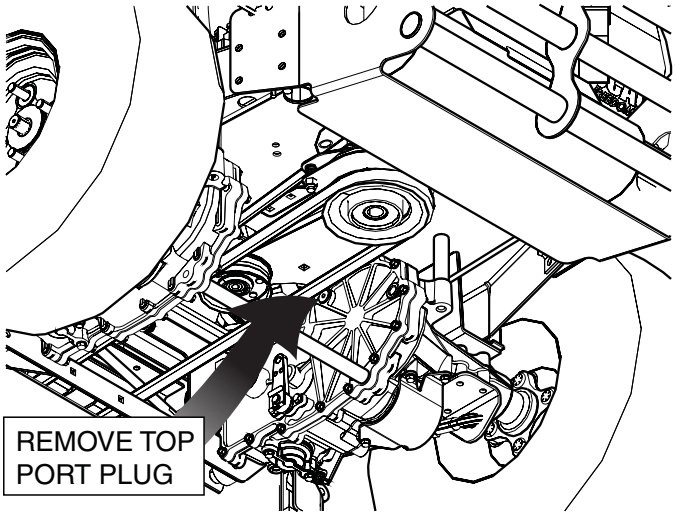



**Figure 7-4 Top Port Plug Location**

8. Fill the hydraulic system oil reservoir with 20w50 motor oil until oil just appears at the bottom of each axles top port. Approximately 5 quart capacity. Reinstall the top port plugs and torque to 180 in/lbs.

***-NOTE-***

*The left side axle will fill with oil first using approximately 4 quarts of oil. Reinstall the top port plug in the left axle and continue filling the hydraulic system through the reservoir. The right side axle should fill up to the bottom on the top port plug after adding an additional one quart of oil. Reinstall the top port plug on the right axle and fill the hydraulic oil reservoir to the proper level as explained in Section 7.2.*

9. Reinstall the hydraulic oil reservoir cap.

10. The hydraulic system will need to be purged. Raise the rear of the machine so the drive wheels are off the ground. Use jackstands and block the wheels to prevent the machine from moving.

11. Move the dump valve control levers to the "freewheel" position. (See Figure 7-5).

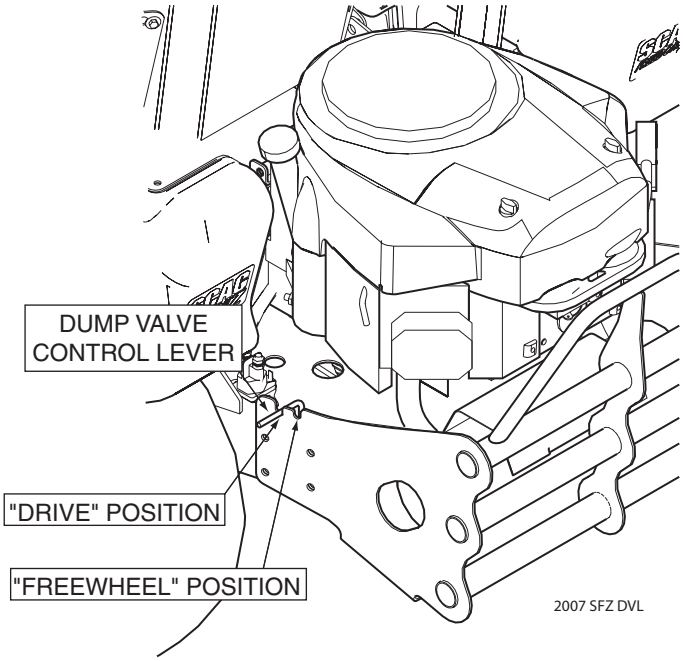



**Figure 7-5 Dump Valve Control Lever**

12. While in the operator's position, start the engine and disengage the parking brake.

13. Run the engine at 1/2 throttle and move the steering control levers forward and backward 5 to 6 times.

14. Engage the parking brake. Move the dump valve control levers to the drive position. (See Figure 7-5).

15. While in the operator's position,, run the engine at 1/2 throttle. Release the parking brake, move the steering control levers forward and backward 5 to 6 times. It may be necessary to repeat steps 12 to 15 until the air is completely purged from the system.

16. Check the hydraulic system oil level as explained in Section 7.2.

## 7.3 ENGINE OIL

### A. Checking Engine Crankcase Oil Level

The engine oil level should be checked after every 8 hours of operation or daily as instructed in the Engine Operator's Manual furnished with this mower.

### B. Changing Engine Crankcase Oil

After the first 20 hours of operation, change the engine crankcase oil and replace the oil filter. Thereafter, change the engine crankcase oil after every 100 hours of operation or bi-weekly, whichever occurs first. Refer to the Engine Operator's Manual furnished with this mower for instructions.

### C. Changing Engine Oil Filter

After the first 20 hours of operation, replace the engine oil filter. Thereafter, replace the oil filter after every 200 hours of operation or every month, whichever occurs first. Refer to Engine Operator's Manual for instructions.

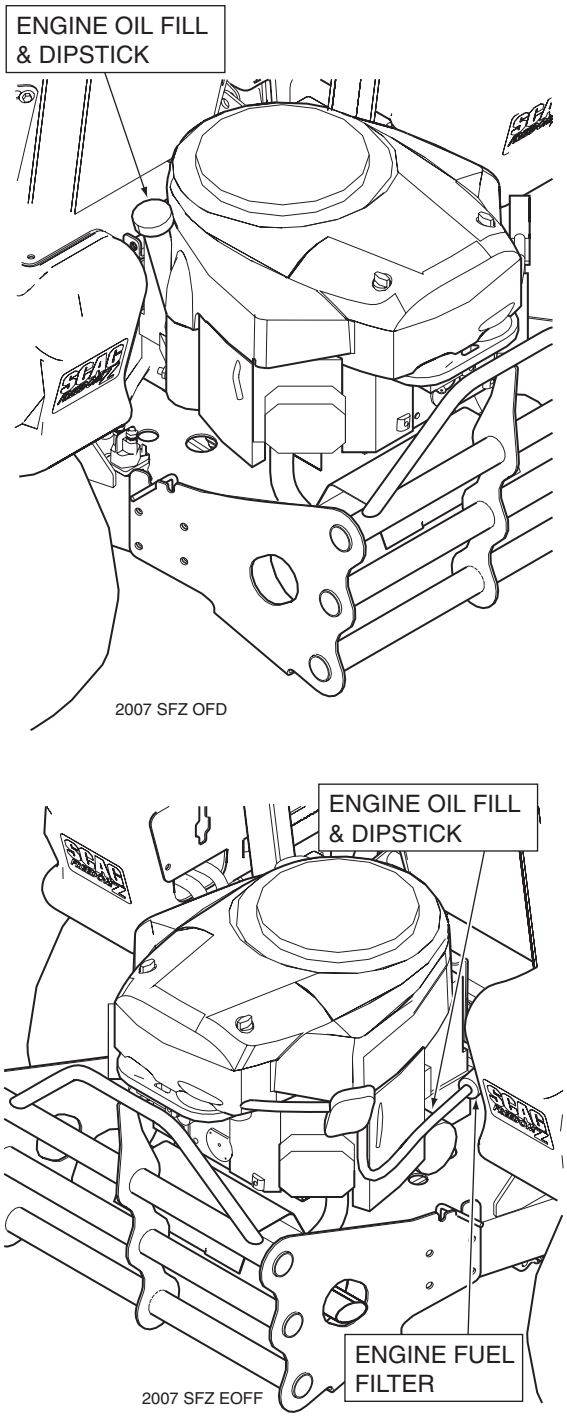



**Figure 7-6 Oil Fill/Dipstick, Oil Filter, Fuel Filter**

## 7.4 ENGINE FUEL SYSTEM

**⚠ DANGER:**

**To avoid injury from burns, allow the mower to cool before removing the fuel tank cap and refueling.**

### A. Filling the Fuel Tank

Fill the fuel tank at the beginning of each operating day to within 1 inch below the filler neck. Do not overfill. Use clean, fresh unleaded gasoline with a minimum octane rating of 87 and a maximum of 10% Ethanol.

To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.

1. Extinguish all cigarettes, cigars, pipes and other sources of ignition.

2. Use only an approved gasoline container.

3. Never remove the gas cap or add fuel with the engine running. Allow the engine to completely cool before fueling.

4. Never fuel the machine indoors or in an enclosed trailer.

5. Never store the machine or fuel container where there is an open flame, spark or pilot light such as on a water heater or other appliances.

6. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.

7. Remove the machine from the truck or trailer and fuel on the ground. If this is not possible, then refuel the machine with a portable container, rather than from a gasoline dispenser nozzle.

8. Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.

9. If fuel is spilled on clothing, change clothing immediately and wash affected skin.

10. Replace gas cap and tighten securely.

## 7.5 ENGINE AIR CLEANER

### A. Cleaning and/or Replacing Air Cleaner Element

For any air cleaner, the operating environment dictates the air cleaner service periods. Inspect and clean the air cleaner element after every 100 hours of operation or bi-weekly, whichever occurs first and replace the element if required.

***-NOTE-***

*In extremely dusty conditions it may be necessary to check the element once or twice daily to prevent engine damage.*

1. Loosen the two bolts securing the air cleaner cover to the air cleaner assembly and remove the cover. Set aside.

2 Remove the air cleaner and inspect.

3. Clean or replace the air cleaner and foam pre-cleaner as recommended by the engine manufacturer.

## 7.6 BATTERY

**⚠WARNING:**

**Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.**

**⚠WARNING:**

**Lead-acid batteries produce flammable and explosive gases. To avoid personal injury when checking, testing or charging batteries, DO NOT use smoking materials near batteries. Keep arcs, sparks and flames away from batteries. Provide proper ventilation and wear safety glasses.**

**⚠WARNING:**

**Electric storage battery fluid contains sulfuric acid which is POISON and can cause SEVERE CHEMICAL BURNS. Avoid contact of fluid with eyes, skin, or clothing. Use proper protective gear when handling batteries. DO NOT tip any battery beyond 45° angle in any direction. If fluid contact does occur, follow first aid suggestions below.**

**BATTERY ELECTROLYTE FIRST AID**

**EXTERNAL CONTACT — Flush with water.**

**EYES — Flush with water for at least 15 minutes and get medical attention immediately.**

**INTERNAL — Drink large quantities of water. Follow with Milk Of Magnesia, beaten egg, or vegetable oil. Get medical attention immediately. In case of internal contact, DO NOT give fluids that would induce vomiting.**

### A. Charging the Battery

Refer to the battery charger's manual for specific instructions.

Under normal conditions the engine's alternator will have no problem keeping a charge on the battery. If the battery has been completely discharged for a long period of time, the alternator may not be able to recharge the battery, and a battery charger will be required.

**DO NOT** charge a frozen battery. It may explode and cause injury. Let the battery warm before attaching a charger.

Whenever possible, remove the battery from the mower before charging and make sure the electrolyte covers the plates in all cells.

**⚠WARNING:**

**BATTERIES PRODUCE EXPLOSIVE GASES. Charge the battery in a well-ventilated space so gases produced while charging can dissipate.**

Charging rates between 3 and 50 amperes are satisfactory if excessive gassing or spewing of electrolyte does not occur or the battery does not feel excessively hot (over 125°F). If spewing or gassing occurs or the temperature exceeds 125°F, the charging rate must be reduced or temporarily stopped to permit cooling.

### B. Jump Starting

1. The booster battery must be a 12 volt type. If a vehicle is used for jump starting, it must have a negative ground system.

2. When connecting the jumper cables, connect the positive cable to the positive battery post, then connect the negative cable to the negative battery post.

## 7.7 DRIVE BELTS

All drive belts are spring loaded and self-tensioning, however after the first 2, 4, 8 and 10 hours of operation, the belts should be checked for proper alignment and wear. Thereafter, check the belts after every 40 hours of operation or weekly, whichever occurs first.

***-NOTE-***

*If you experience frequent belt wear or breakage, see your authorized Scag Dealer for belt adjustment.*

## 7.8 CUTTER BLADES

### A. Blade Inspection

1. Remove the ignition key before servicing the blades.

2. Raise the mower deck to the highest position. Place the pin in the highest cutting height positon to prevent the cutter deck from falling.

**⚠WARNING:**

**Always wear proper hand and eye protection when working with cutter blades.**

3. Check the cutter blades for straightness. If the cutter blades appear bent, they will need to be replaced.

**⚠WARNING:**

**Do not attempt to straighten a bent blade, and never weld a broken or cracked blade. Always replace it with a new blade to assure safety.**

4. If a blade cutting edge is dull or nicked, it should be sharpened. Remove the blades for sharpening. See "Blade Replacement."

***-NOTE-***

*Keep the blades sharp. Cutting with dull blades not only yields a poor mowing job, but slows the cutting speed of the mower and causes extra wear on the engine and the blade drive.*

### B. Blade Sharpening

***-NOTE-***

*If possible, use a file to sharpen the blade. Using a wheel grinder may burn the blade.*

***-NOTE-***

*DO NOT sharpen the blades beyond 1/3 of the width of the blade.*

1. Sharpen the cutting edge at the same bevel as the original (See Figure 7-7). Sharpen only the top of the cutting edge to maintain sharpness.

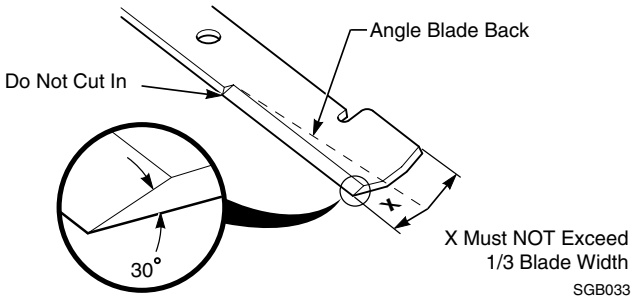



**Figure 7-7 Blade Sharpening**

2. Check the balance of the blade. If the blades are out of balance, vibration and premature wear can occur. See your authorized Scag dealer for blade balancing or special tools, if you choose to balance your own blades.

### C. Blade Replacement

**⚠WARNING:**

**Always wear proper hand and eye protection when working with cutter blades.**

1. Remove the ignition key before replacing the blades.

2. Raise the mower deck to the highest position. Place the cutting height pin in the highest cutting height positon to prevent the cutter deck from falling.

3. Secure the cutter blades to prevent them from rotating, (Use the optional Blade Buddy tool, P/N 9212, to assist in securing the cutter blades), remove the blade attaching bolt. Remove the cutter blade, bolt, lockwasher and flatwasher from the spindle shaft. (Figure 7-8).

4. To install the new cutter blade, put the lockwasher and flatwasher onto the blade bolt and slide the bolt into the hole in the cutter blade.

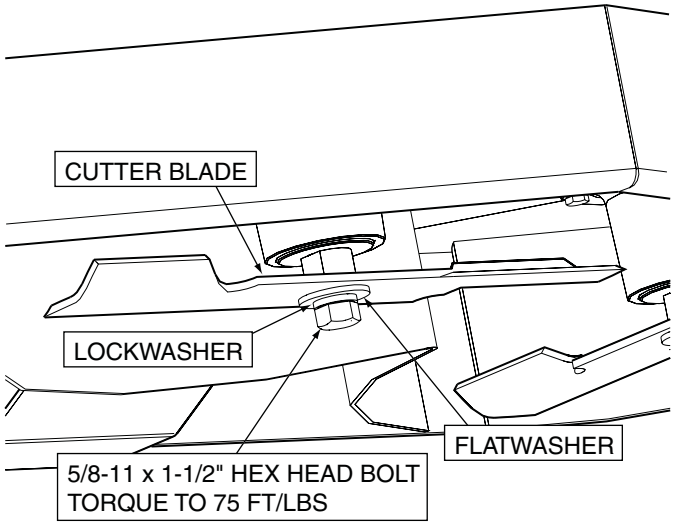



**Figure 7-8 Blade Replacement**

***-NOTE-***

*Be sure that the blade is installed with the lift wing toward the top of the cutter deck.*

5. Install the cutter blade onto the cutter spindle shaft. Secure the blades from rotating and torque to 75 ft/lbs. (See Figure 7-8).

## 7.9 TIRES

Check the tire pressures after every 8 hours of operation or daily.

Caster Wheels ..... 25 PSI
Drive Wheels ..... 8 PSI

## 7.10 BODY, DECK, AND UPHOLSTERY

**⚠CAUTION:**

**Do not wash any portion of the equipment while it is hot. Do not wash the engine; use compressed air.**

1. After each use, wash the mower and cutter deck. Use cold water and automotive cleaners. Do not use pressure cleaners.

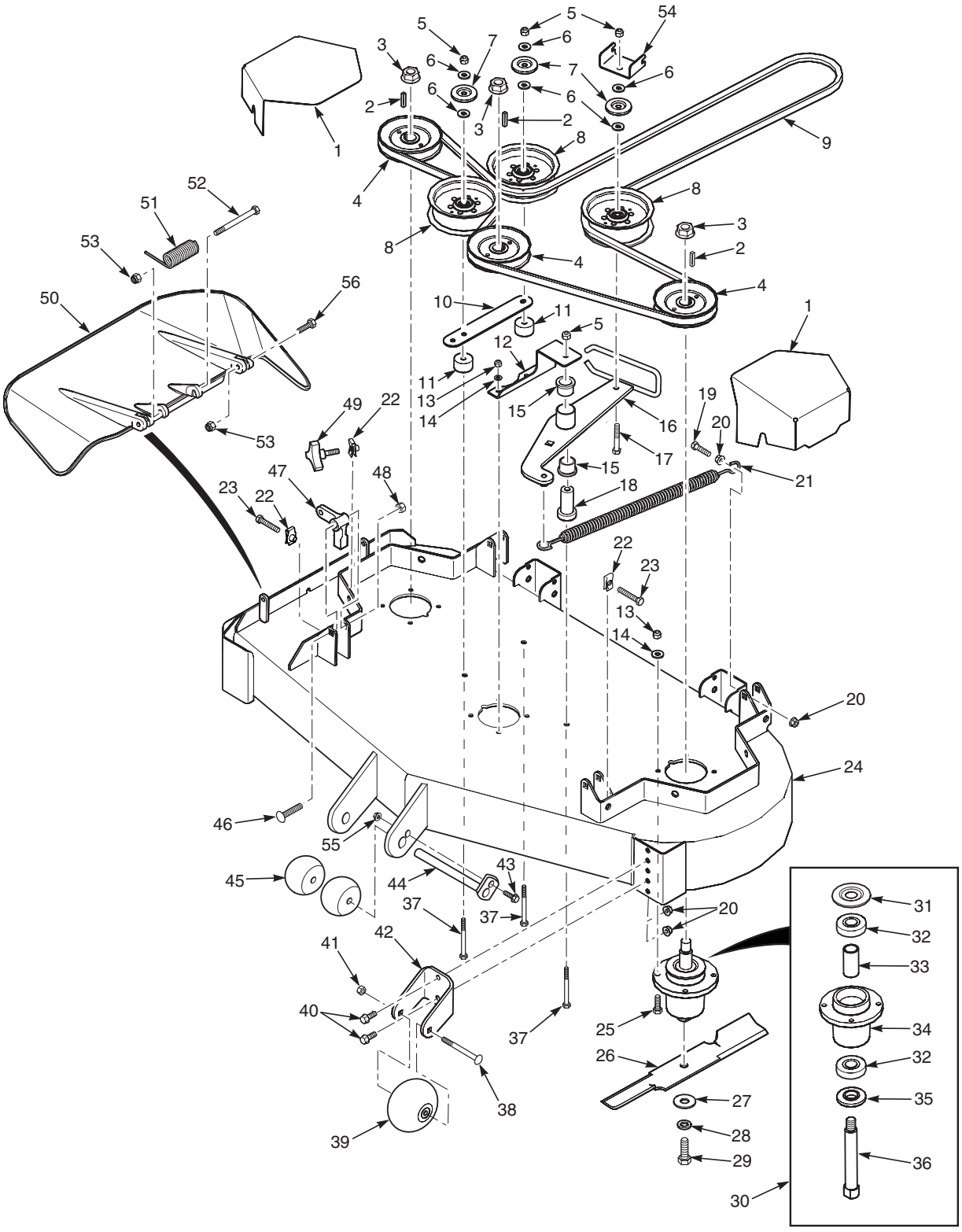
2. Do not spray electrical components.

3. Use a mild soap solution or a vinyl/rubber cleaner to clean the seat.

4. Repair damaged metal surfaces using Scag touch-up paint (P/N 48521) available from your authorized Scag dealer. Wax the mower with an automotive paint wax for maximum paint protection.

# NOTES

# 48”& 52" CUTTER DECKS

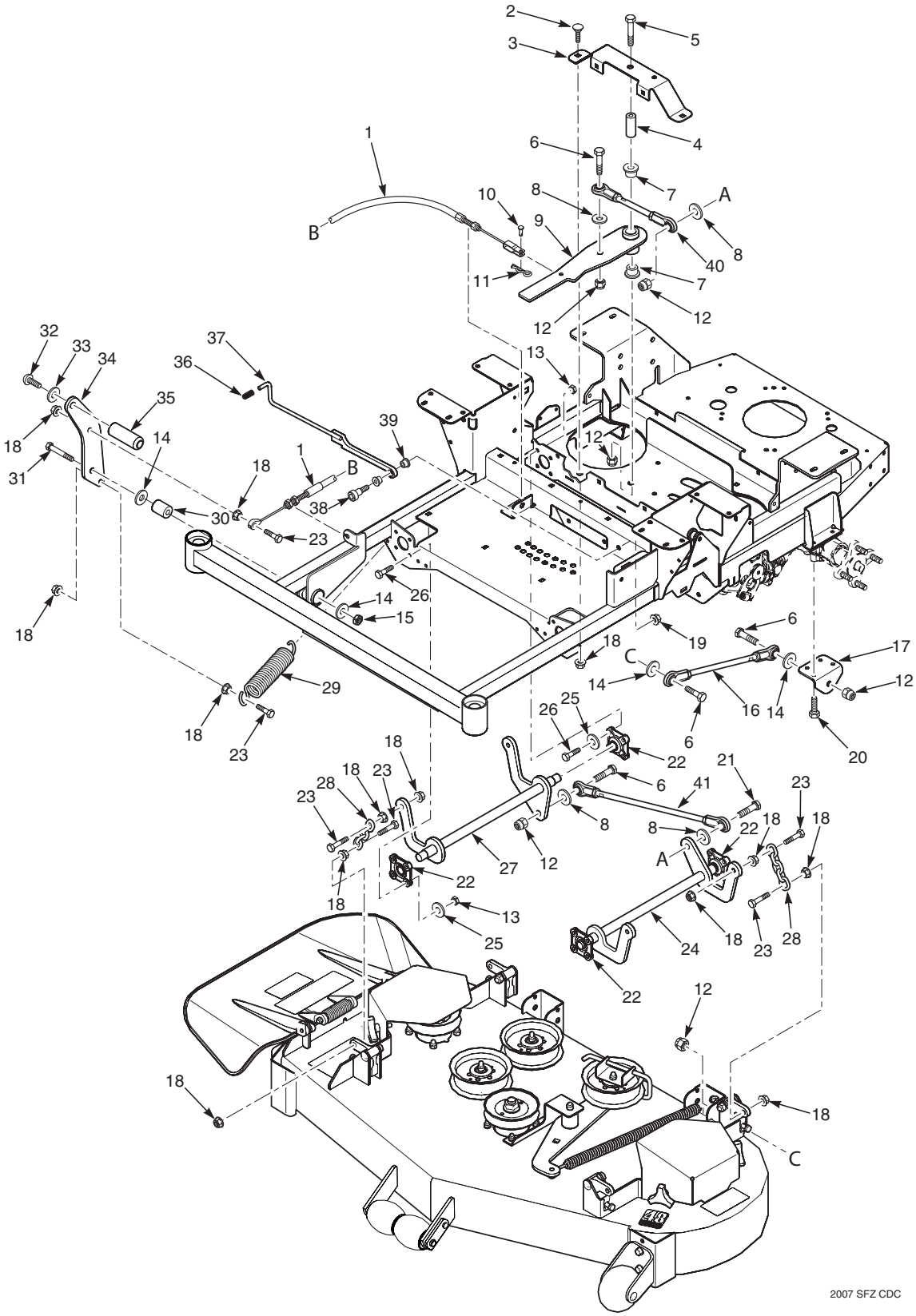



2007 SFZ CD

# 48”& 52" CUTTER DECKS

| Ref. No. | Part No. | Description | 48 | 52 |
|---|---|---|---|---|
| 1 | 424528 | Belt Cover | x | x |
| 2 | 04063-01 | Key, 1/4 x 1/4 x 1-1/4” | x | x |
| 3 | 04112-06 | Nut, 3/4-16 Spiral Lock | x | x |
| 4 | 483323 | Pulley, 5.13” OD - 25mm Bore | x | |
| | 483324 | Pulley, 5.73” OD - 25mm Bore | | x |
| 5 | 04021-09 | Nut, Elastic Stop 3/8-16 | x | x |
| 6 | 04043-04 | Flatwasher, 3/8 - .391 x .938 x .105 | x | x |
| 7 | 424367 | Dust Shield | x | x |
| 8 | 483422 | Pulley, 5” Idler | x | x |
| 9 | 483325 | Belt, Cutter Deck | x | |
| | 483326 | Belt, Cutter Deck | | x |
| 10 | 424479 | Brace, Pulley | x | x |
| 11 | 43711 | Spacer | x | x |
| 12 | 424548 | Support, Idler Pivot | x | |
| | 424547 | Support, Idler Pivot | | x |
| 13 | 04021-22 | Nut, Elastic Stop 5/16-18 | x | x |
| 14 | 04030-03 | Lockwasher, 5/16 Spring | x | x |
| 15 | 483453-03 | Bearing | x | x |
| 16 | 462037 | Idler Arm (incl. Item #15) | x | x |
| 17 | 04001-31 | Bolt, Hex Head 3/8-16 x 2-1/2” | x | x |
| 18 | 43708 | Pivot, Idler | x | x |
| 19 | 04001-136 | Bolt, Hex Head 3/8-16 x 1-1/2” Gr. 8 | x | x |
| 20 | 04019-04 | Nut, Serrated Flange 3/8-16 | x | x |
| 21 | 483375 | Spring, Idler | x | x |
| 22 | 04110-03 | U-Nut, 3/8-16 | x | x |
| 23 | 04107-04 | Bolt, Hex Head 3/8-16 x 2” Special Lock | x | x |
| 24 | 462039 | Cutter Deck w/Decals, SFZ | x | |
| | 462040 | Cutter Deck w/Decals, SFZ | | x |
| 25 | 04001-11 | Bolt, Hex Head 5/16-18 x 1-1/2” | x | x |
| 26 | 482877 | Cutter Blade, 16.5” | x | |
| | 482878 | Cutter Blade, 18” | | x |
| 27 | 04043-06 | Flatwasher, 5/8-.688 x 1.75 x .134 HD | x | x |
| 28 | 04030-07 | Lockwasher, 1/2 Spring | x | x |
| 29 | 04001-121 | Bolt, Hex Head 5/8-11 x 1-1/2” | x | x |
| 30 | 461950 | Spindle Assembly | x | x |
| 31 | 483304 | Debris Shield | x | x |
| 32 | 483303 | Bearing | x | x |
| 33 | 43693 | Spacer, Bearing | x | x |
| 34 | 462014 | Spindle Housing Assembly (incl. 32, 33) | x | x |
| 35 | 43694 | Protector, Bearing | x | x |
| 36 | 43695 | Shaft, Spindle | x | x |
| 37 | 04001-77 | Bolt, Hex Head 3/8-16 x 3-1/2” | x | x |
| 38 | 04003-26 | Bolt, Carriage 3/8-16 x 4” | x | x |
| 39 | 481632 | Wheel, Anti-Scalp | x | x |
| 40 | 04017-27 | Bolt, Hex Head 3/8-16 x 1” Serr. Flange | x | x |
| 41 | 04021-05 | Nut, Center Lock 3/8-16 | x | x |
| 42 | 422478 | Bracket, Anti-Scalp | x | x |
| 43 | 04001-09 | Bolt, Hex Head 5/16-18 x 1” | x | x |
| 44 | 451926 | Shaft Weldment | x | x |
| 45 | 482295 | Wheel, Anti-Scalp | x | x |
| 46 | 04003-42 | Bolt, Carriage 7/16-14 x 2-1/4” | x | x |
| 47 | 483361 | Lever, Deck Level | x | x |
| 48 | 04021-11 | Nut, Elastic Stop 7/16-14 | x | x |
| 49 | 481625-01 | Knob w/Stud | x | x |
| 50 | 462031 | Discharge Chute Assembly | x | |
| | 462032 | Discharge Chute Assembly | | x |
| 51 | 482245 | Spring, Discharge Chute | x | x |
| 52 | 04001-154 | Bolt, Hex Head 5/16-18 x 4-3/4” | x | x |
| 53 | 04021-10 | Nut, Elastic Stop 5/16-18 | x | x |
| 54 | 424615 | Bracket, Belt Guide | x | x |
| 55 | 04019-03 | Nut, Serrated Flange 5/16-18 | x | x |
| 56 | 04001-12 | Bolt, Hex Head 5/16-18 x 1-3/4” | x | x |

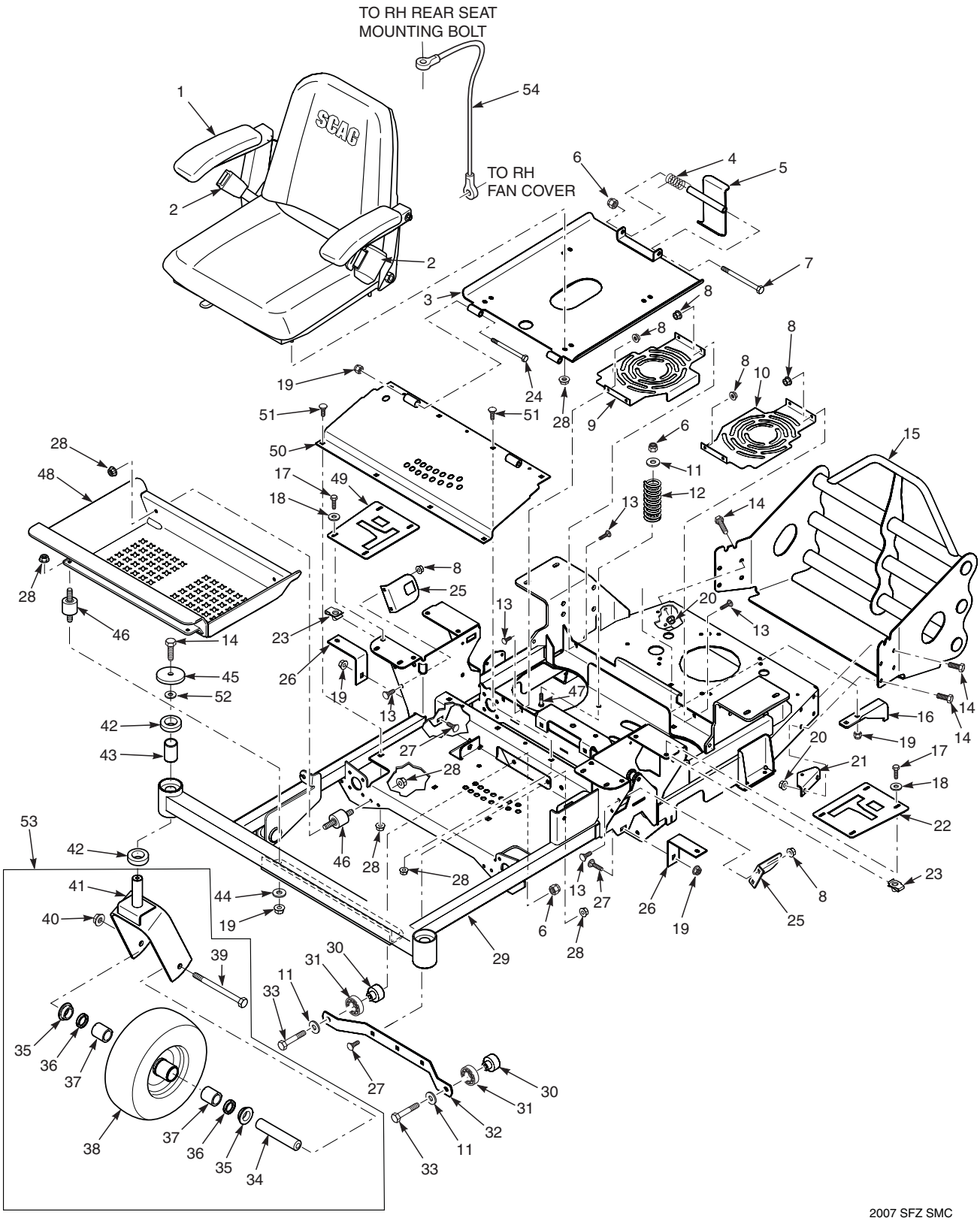
# CUTTER DECK CONTROLS



# CUTTER DECK CONTROLS

| Ref. No. | Part No. | Description |
|---|---|---|
| 1 | 483341 | Cable, Deck Lift |
| 2 | 04003-31 | Bolt, Carriage 3/8-16 x 3/4” |
| 3 | 424476 | Support, Idler Arm |
| 4 | 43710 | Spacer, Deck Lift Pivot |
| 5 | 04001-90 | Bolt, Hex Head 1/2-13 x 3-1/4” |
| 6 | 04001-183 | Bolt, Hex Head 1/2-13 x 1-3/4” |
| 7 | 483453-03 | Bearing |
| 8 | 04040-07 | Flatwasher, 1/2-.531 x 1.06 x .095 |
| 9 | 461999 | Deck Lift Bellcrank Assy. |
| 10 | 04064-17 | Clevis Pin, 5/16 x 3/4” |
| 11 | 04062-01 | Hair Pin, .094 x 1.62” |
| 12 | 04021-07 | Nut, Elastic Stop 1/2-13 |
| 13 | 04021-10 | Nut, Elastic Stop 5/16-18 |
| 14 | 04040-13 | Flatwasher, 1/2-.562 x 1.375 x .109 |
| 15 | 04021-19 | Nut, Center Lock 1/2-13 |
| 16 | 483332 | Linkage, Push Arm |
| 17 | 424489 | Bracket, Push Arm Link |
| 18 | 04019-04 | Nut, Serrated Flange 3/8-16 |
| 19 | 04021-09 | Nut, Elastic Stop 3/8-16 |
| 20 | 04001-49 | Bolt, Hex Head 5/16-18 x 3” |
| 21 | 04001-52 | Bolt, Hex Head 1/2-13 x 2-1/2” |
| 22 | 483334 | Bearing, Deck Lift |
| 23 | 04001-20 | Bolt, Hex Head 3/8-16 x 1-1/2” |
| 24 | 451868 | Weldment, Deck Lift LH |
| 25 | 04040-14 | Flatwasher, 1/4-.312 x .750 x .065 |
| 26 | 04001-09 | Bolt, Hex Head 5/16-18 x 1” |
| 27 | 451867 | Weldment, Deck Lift RH |
| 28 | 482628 | Chain, Deck Lift |
| 29 | 483374 | Spring, Deck Lift |
| 30 | 43710 | Sleeve, Deck Lift Pivot |
| 31 | 04001-74 | Bolt, Hex Head 1/2-13 x 3” |
| 32 | 04105-01 | Bolt, Hex Socket 5/8-11 x 1-1/2” |
| 33 | 04030-07 | Lockwasher, 5/8” Spring |
| 34 | 424535 | Pedal, Foot Bracket |
| 35 | 424504 | Foot Pedal |
| 36 | 483492 | Grip, Deck Latch |
| 37 | 491254 | Weldment, Deck Latch |
| 38 | 04009-06 | Bolt, Shoulder 1/2 x 1/2” |
| 39 | 483453-10 | Bearing |
| 40 | 483328 | Linkage Assy., Deck Lift |
| 41 | 483367 | Linkage Assy., Deck Lift |

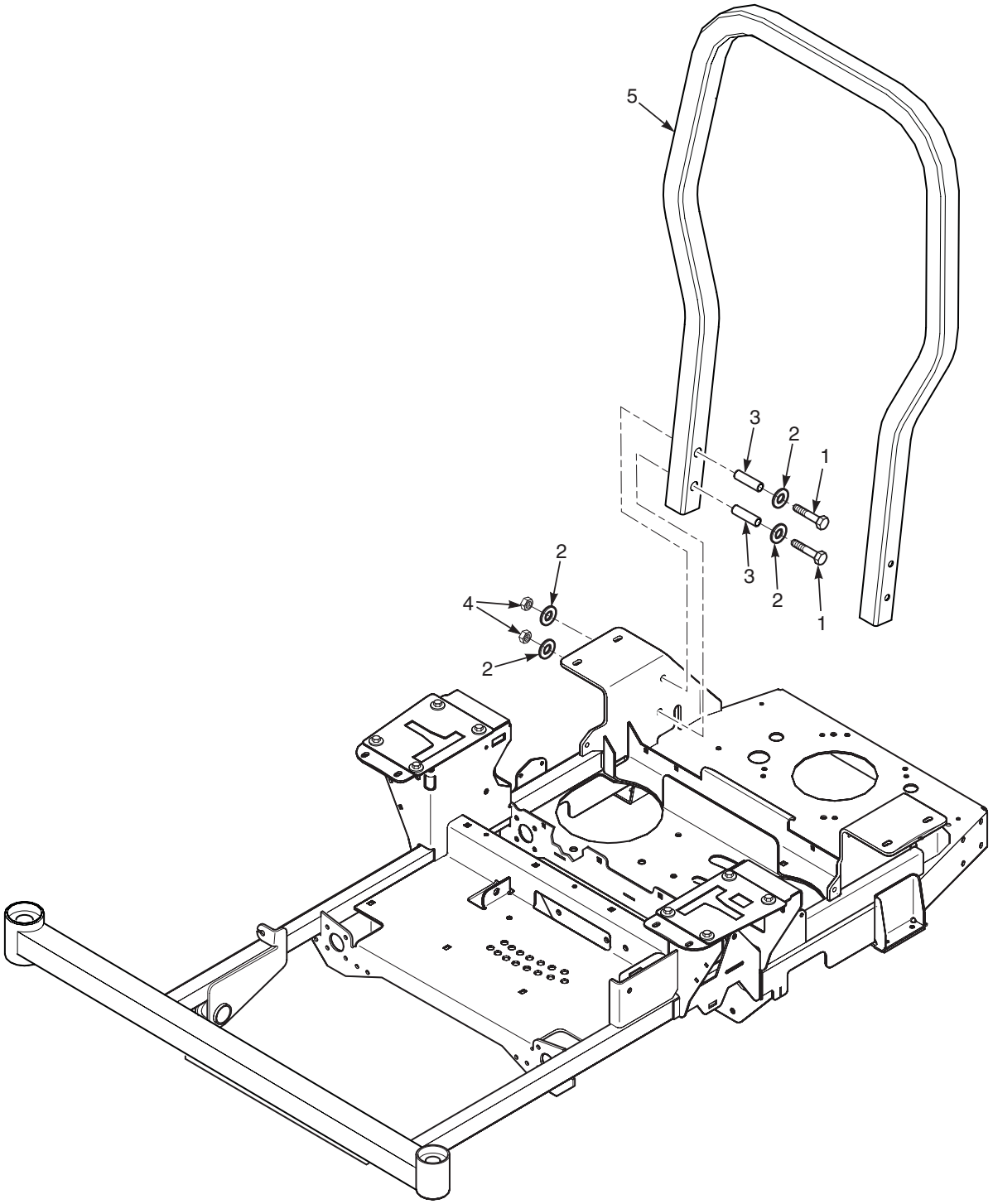
# SHEET METAL COMPONENTS



# SHEET METAL COMPONENTS

| Ref. No. | Part No. | Description |
|---|---|---|
| 1 | 483408 | Seat Assembly |
| | 483544 | Back Cushion |
| | 483545 | Bottom Cushion |
| | 483549 | Arm Rest Kit |
| | 483543 | Seat Adjustment Track Set |
| 2 | 483412 | Seat Belt Assembly, Retractable |
| | 461990 | Hardware Package, Seat Belt Mouting |
| 3 | 462034 | Seat Base w/decal |
| 4 | 483371 | Spring, Seat Latch |
| 5 | 451883 | Seat Latch |
| 6 | 04021-09 | Nut, Elastic Stop 3/8-16 |
| 7 | 04001-100 | Bolt, Hex Head 3/8-16 x 6” |
| 8 | 04019-02 | Nut, Serrated Flange 1/4-20 |
| 9 | 424585 | Cover, Fan RH |
| 10 | 424550 | Cover, Fan LH |
| 11 | 04041-07 | Flatwasher, 3/8-.391 x .938 x .105 |
| 12 | 483372 | Spring, Seat |
| 13 | 04003-07 | Bolt, Carriage 1/4-20 x 1/2” |
| 14 | 04001-19 | Bolt, Hex Head 3/8-16 x 1” |
| 15 | 451929 | Rear Bumper |
| 16 | 424523 | Bracket, Anti-Rotation |
| 17 | 04001-14 | Bolt, Hex Head 1/4-20 x 1” |
| 18 | 04040-14 | Flatwasher, 1/4-.312 x .750 x .065 |
| 19 | 04021-10 | Nut, Elastic Stop 5/16-18 |
| 20 | 04019-04 | Nut, Serrated Flange 3/8-16 |
| 21 | 424639 | Bracket, Dump Valve |
| 22 | 462023 | Control Plate LH |
| 23 | 04110-01 | U-Nut 1/4-20 |
| 24 | 04001-73 | Bolt, Hex Head 5/16-18 x 3-3/4” |
| 25 | 424511 | Bracket, Switch Mount |
| 26 | 424516 | Bracket, Tank Mount |
| 27 | 04003-12 | Bolt, Carriage 5/16-18 x 3/4” |
| 28 | 04019-03 | Nut, Serrated Flange 5/16-18 |
| 29 | 462022 | Main Frame w/Decals |
| 30 | 43703 | Spacer, Bearing |
| 31 | 483379 | Bearing |
| 32 | 424480 | Support, Deck Guide |
| 33 | 04001-31 | Bolt, Hex Head 3/8-16 x 2-1/2” |
| 34 | 43698 | Sleeve, Front Caster Wheel |
| 35 | 483453-09 | Bearing |
| 36 | 483486 | Seal, 1 x 1.375 x .25 |
| 37 | 483453-08 | Bearing |
| 38 | 483409 | Caster Wheel Assembly |
| | 483417 | Tire, 11 x4-5.00 2-Ply |
| | 483410 | Rim, 5 x 3.25 w/Valve |
| 39 | 04001-80 | Bolt, Hex Head 1/2-13 x 6-1/2” |
| 40 | 04021-07 | Nut, Elastic Stop 1/2-13 |
| 41 | 451845 | Yoke, Caster Wheel |
| 42 | 483466 | Bearing |
| 43 | 43736 | Spacer, Caster Bearing |
| 44 | 04040-15 | Flatwasher, 5/16-.375 x .875 x .083 |
| 45 | 04041-38 | Flatwasher, 3/8-.406 x 2.25 x .188 |
| 46 | 483493 | Rubber Isolator |
| 47 | 04003-11 | Bolt, Carriage 3/8-16 x 1-1/4” |
| 48 | 451889 | Foot Plate Weldment |
| 49 | 462024 | Control Plate RH |
| 50 | 462005 | Weldment, Deck Lift Cover |
| 51 | 04003-14 | Bolt, Carriage 5/16-18 x 1/2” |
| 52 | 04040-11 | Flatwasher, 7/16-.500 x 1.250 x .083 |
| 53 | 462015 | Caster Wheel Assembly w/Yoke |
| 54 | 483559 | Cable, Seat Stop |

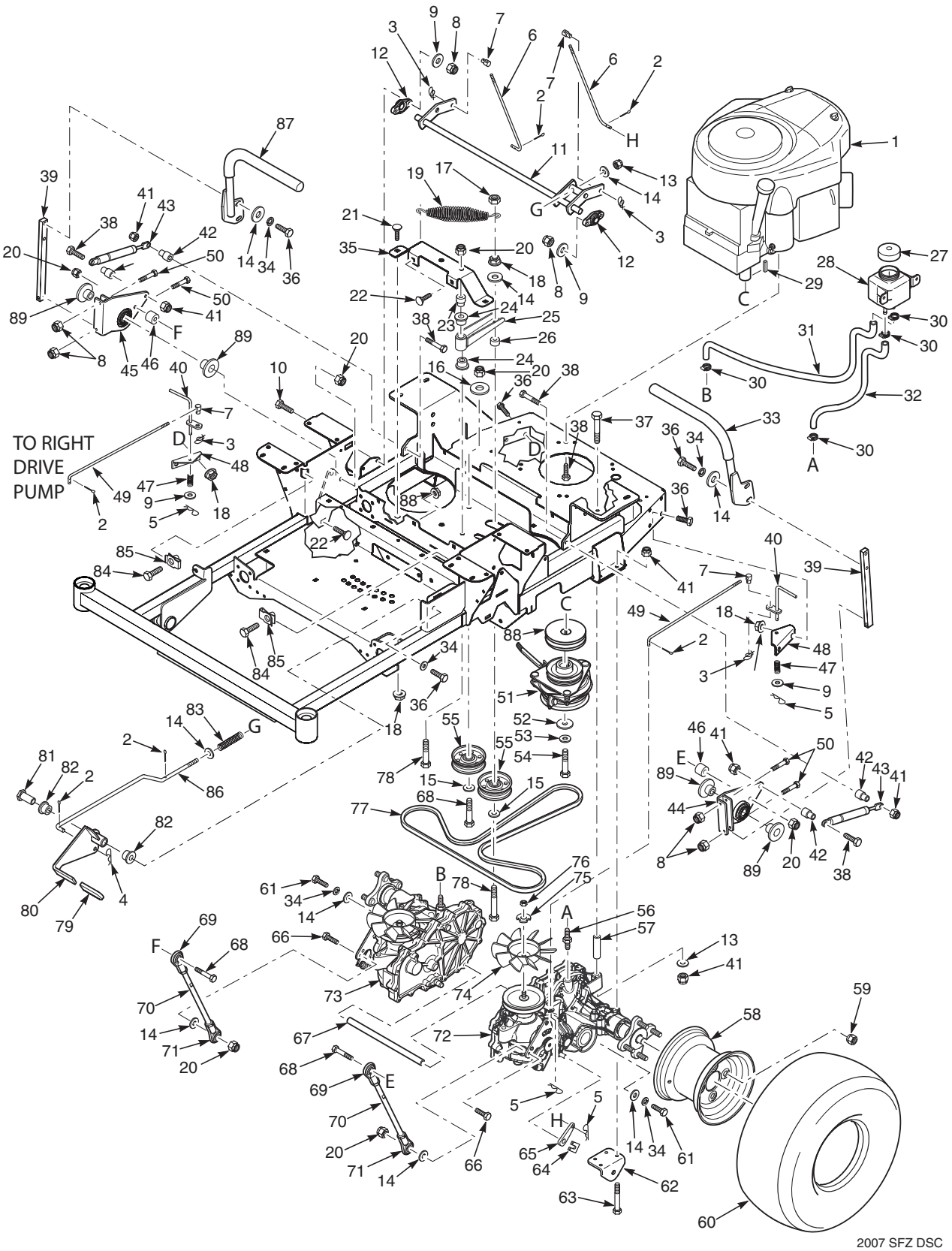
# SFZ ROLL-OVER PROTECTION SYSTEM



# SFZ ROLL-OVER PROTECTION SYSTEM

| Ref. No. | Part No. | Description |
|---|---|---|
| 1 | 04001-184 | Bolt, Hex Head 1/2-13 x 3-1/4" Gr. 8 |
| 2 | 04040-13 | Flatwasher, 1/2-.562 x 1.375 x .109 |
| 3 | 43743 | Bushing, SFZ ROPS |
| 4 | 04021-19 | Nut, Center Lock 1/2-13 |
| 5 | 462021 | ROPS, SFZ |

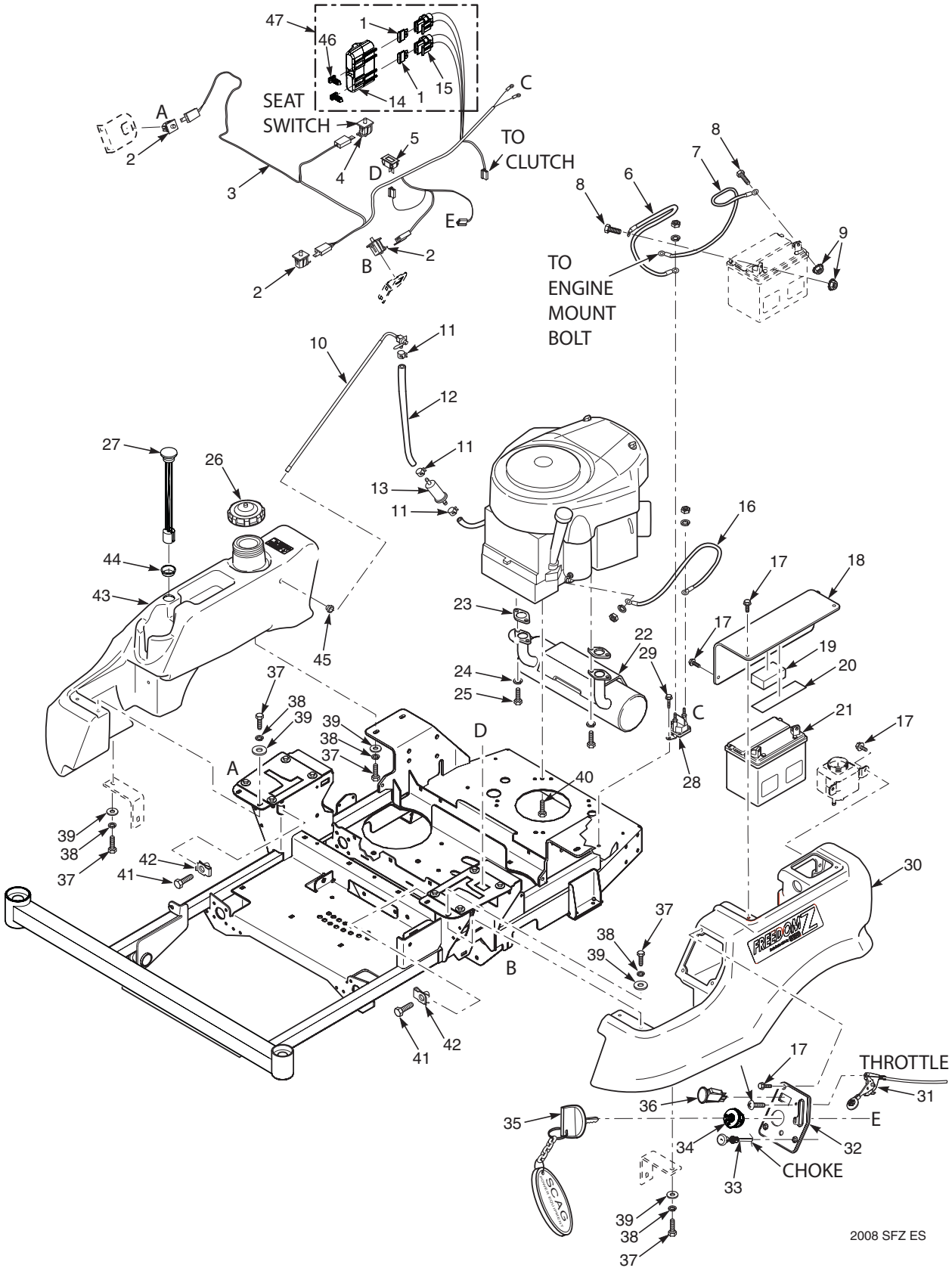
# DRIVE SYSTEM COMPONENTS



# DRIVE SYSTEM COMPONENTS

| Ref. No. | Part No. | Description |
|---|---|---|
| 1 | 483465 | Engine, Briggs & Stratton 26hp |
| | 483516 | Engine, Kawasaki 19hp |
| 2 | 04061-01 | Cotter Pin, 3/32 x 1" |
| 3 | 04069-01 | Pin, Rue Cotter 3/8" Dia. |
| 4 | 04062-02 | Hair Pin Cotter, .080 x 1.19" |
| 5 | 04019-03 | Nut, Serrated Flange 5/16-18 |
| 6 | 44165 | Rod, Brake Adjustment |
| 7 | 43726 | Joint, Swivel |
| 8 | 04021-08 | Nut, Elastic Stop 1/4-20 |
| 9 | 04040-14 | Flatwasher, 1/4-.312 x .750 x .065 |
| 10 | 04017-07 | Bolt, Serratted Flange 1/4-20 x 1-1/4" |
| 11 | 451884 | Weldment, Brake Lever |
| 12 | 483504 | Bearing |
| 13 | 04040-15 | Flatwasher, 5/16-.375 x .875 x .083 |
| 14 | 04041-07 | Flatwasher, 3/8-.391 x .938 x .105 |
| 15 | 04043-04 | Flatwasher, 3/8-.391 x .938 x .105 HD |
| 16 | 04041-11 | Flatwasher, 3/8-.406 x 1.5 x 7 ga. |
| 17 | 04021-05 | Nut, Center Lock 3/8-16 |
| 18 | 04019-04 | Nut, Serrated Flange 3/8-16 |
| 19 | 483087 | Spring, Transmission Idler |
| 20 | 04021-09 | Nut, Elastic Stop 3/8-16 |
| 21 | 04003-31 | Bolt, Carriage 3/8-16 x 3/4" |
| 22 | 04003-12 | Bolt, Carriage 5/16-18 x 3/4" |
| 23 | 43715 | Shaft Pivot, Idler Arm |
| 24 | 483453-04 | Bearing |
| 25 | 462004 | Transmission Idler Arm Assy. |
| 26 | 43720 | Spacer, Idler Pulley |
| 27 | 483514 | Cap |
| 28 | 483438 | Reservoir Assy. |
| 29 | 04063-31 | Key, 1/4 x 1/4 x 1-3/4" |
| 30 | 48136-05 | Clamp, .87" Max Dia. |
| 31 | 483431 | Hose, RH Transmission |
| 32 | 483432 | Hose, LH Transmission |
| 33 | 462001 | Handle Bar Assy. w/Grip |
| | 482340 | Grip |
| 34 | 04030-04 | Lockwasher, 3/8" Spring |
| 35 | 424476 | Support, Idler Arm |
| 36 | 04001-19 | Bolt, Hex Head 3/8-16 x 1" |
| 37 | 04001-49 | Bolt, Hex Head 5/16-18 x 3" |
| 38 | 04001-11 | Bolt, Hex Head 5/16-18 x 1-1/2" |
| 39 | 424498 | Bar, Control Lever |
| 40 | 451912 | Dump Valve Lever |
| 41 | 04021-10 | Nut, Elastic Stop 5/16-18 |
| 42 | 43602 | Spacer, Pump Dampener |
| 43 | 482794 | Dampener |
| 44 | 462019 | Control Linkage, LH |
| 45 | 462020 | Control Linkage, RH |
| 46 | 43674 | Spacer |
| 47 | 482070 | Spring |
| 48 | 424639 | Bracket, Dump Mounting |
| 49 | 44162 | Rod, Brake Linkage |
| 50 | 04001-04 | Bolt, Hex Head 1/4-20 x 1-1/2" |
| 51 | 462012 | Electric Clutch Assy. |
| 52 | 04041-28 | Flatwasher, 7/16-.469 x 1.75 x .25 |
| 53 | 04030-05 | Lockwasher, 7/16" Spring |
| 54 | 04102-03 | Bolt, Hex Head 7/16-20 x 2-1/4" Patch |
| 55 | 483638 | Pulley, 3-1/2" Dia. |
| 56 | 482800-03 | Fitting, Transmission |
| 57 | 43700 | Spacer, Axle |
| 58 | 481868 | Rim w/Valve Stem |
| 59 | 04028-02 | Wheel Nut, 1/2-20 |
| 60 | 483390 | Wheel Assy. |
| | 483389 | Tire, 20 x 10-8 2-Ply |
| 61 | 04001-46 | Bolt, Hex Head 3/8-16 x 2-1/4" |
| 62 | 424489 | Bracket, Pusharm Link |
| 63 | 04001-49 | Bolt, Hex Head 5/16-18 x 3" |
| 64 | HG51190 | Clip, Brake Lever |
| 65 | HG52639 | Lever, Brake |
| 66 | 04001-32 | Bolt, Hex Head 3/8-16 x 1-1/4" |
| 67 | 43701 | Spacer, Axles |
| 68 | 04001-45 | Bolt, Hex Head 3/8-16 x 2" |
| 69 | 483339 | Rod End, 3/8-24 UNF RH |
| | 04020-25 | Nut, Jam 3/8-24 UNF RH |
| 70 | 483337 | Linkage, Pump |
| 71 | 483340 | Rod End, 3/8-24 UNF LH |
| | 04020-26 | Nut, Jam 3/8-24 UNF LH |
| 72 | 483527 | Transaxle Assy, LH (ZL-KCEF-3LKG-1EXX) |
| 73 | 483528 | Transaxle Assy, RH (ZL-GCEF-3LKF-1EXX) |
| 74 | HG51862 | Fan |
| 75 | HG51523 | Fan Washer |
| 76 | HG44133 | Fan Nut |
| 77 | 483314 | Belt, Transmission Drive |
| 78 | 04001-54 | Bolt, Hex Head 3/8-16 x 3" |
| 79 | 482102 | Grip, Brake Handle |
| 80 | 462010 | Brake Handle Assy. |
| 81 | 43722 | Spacer, Brake Handle |
| 82 | 483453-05 | Bearing |
| 83 | 483538 | Spring, Brake |
| 84 | 04107-01 | Bolt, Hex Head 3/8-16 x 1-1/4 Special Lock |
| 85 | 04110-03 | U-Nut, 3/8-16 |
| 86 | 44157 | Rod, Brake Linkage |
| 87 | 462000 | Handle Bar w/Grip |
| | 482340 | Grip |
| 88 | 483320 | Pulley, 4-1/2" Dia. 1" Bore |
| 89 | 43719 | Spacer, Linkage |

# FUEL AND ELECTRICAL SYSTEM

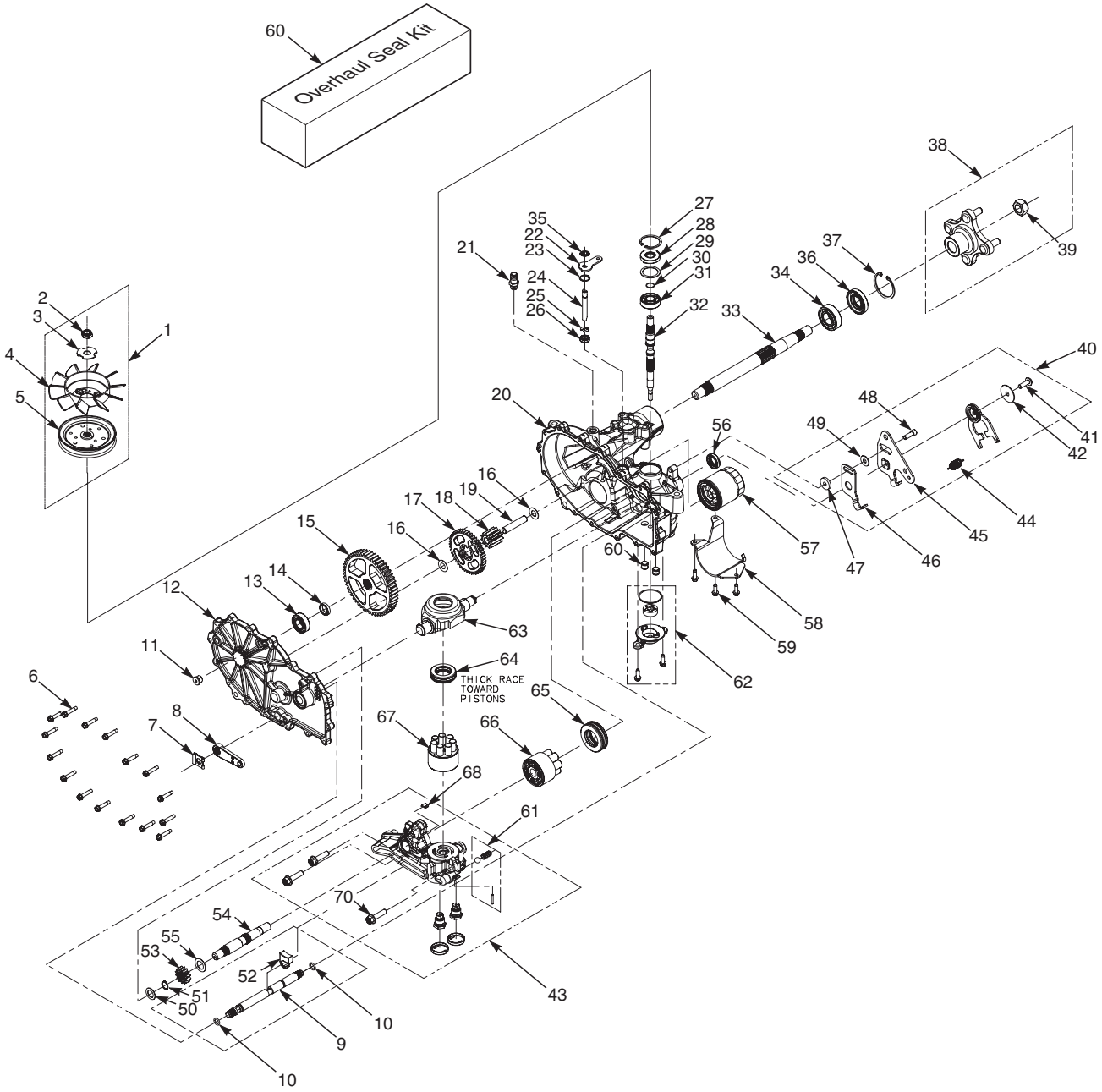


# FUEL AND ELECTRICAL SYSTEM

| Ref. No. | Part No. | Description |
|---|---|---|
| 1 | 48298 | Fuse, 20amp |
| 2 | 483473 | Switch |
| 3 | 483621 | Wire Harness, Main |
| 4 | 483474 | Switch, Seat |
| 5 | 483537 | Hourmeter |
| 6 | 48029-13 | Battery Cable, Red 25” |
| 7 | 48029-11 | Battery Cable, Black 27” |
| 8 | 04001-44 | Bolt, Hex Head 1/4-20 x 1/2” |
| 9 | 04020-02 | Nut, 1/4-20 |
| 10 | 483555 | Fuel Tube Assy. |
| 11 | 48059-01 | Clamp, Fuel Hose 1/4”ID |
| 12 | 483617 | Fuel Hose , 1/4” ID Non-Perm. (order by inch) |
| 13 | ** | Fuel Filter |
| 14 | 483571 | Cover, Sealed Double |
| 15 | 483629 | Fuse Holder |
| 16 | 48029-09 | Battery Cable, Red 9” |
| 17 | 04017-04 | Bolt, Hex Head 1/4-20 x 1/2” Serrated Flange |
| 18 | 461996 | Battery Cover (incl. items 19 & 20) |
| 19 | 483452 | Pad, Battery Hold Down |
| 20 | 483508 | Rubber Pad |
| 21 | 483665 | Battery (not avail. through Scag) |
| 22 | 483381 | Muffler, Briggs & Stratton |
| | 483383 | Muffler, Kawasaki |
| 23 | ** | Exhaust Gasket |
| 24 | ** | Lockwasher |
| 25 | ** | Bolt |
| 26 | 482547 | Cap, Fuel Tank |
| 27 | 483523 | Fuel Gauge Assy. |
| 28 | 483278 | Solenoid |
| 29 | 04011-13 | Bolt, Self Tapping 1/4-20 x 3/4” Shakeproof |
| 30 | 483364 | Tank, LH |
| 31 | 483434 | Throttle Cable (Briggs & Stratton |
| | 483645 | Throttle Cable (Kawasaki) |
| 32 | 462036 | Instrument Panel w/Decal |
| 33 | 483435 | Choke Cable (Briggs & Stratton) |
| | 483646 | Choke Cable (Kawasaki) |
| 34 | 483472 | Ignition Switch |
| 35 | 483366 | Key, Ignition |
| | 462036 | Key Assembly w/Fob |
| 36 | 483162 | PTO Switch |
| 37 | 04001-08 | Bolt, Hex Head 5/16-18 x 3/4” |
| 38 | 04030-03 | Lockwasher, 5/16” Spring |
| 39 | 04040-15 | Flatwasher, 5/16-.375 x .875 x .083 |
| 40 | 04001-11 | Bolt, Hex Head 5/16-18 x 1-1/2” |
| 41 | 04107-03 | Bolt, Hex Head 3/8-16 x 1-1/4” Special Lock |
| 42 | 04110-03 | U-Nut, 3/8-16 |
| 43 | 462009 | Fuel Tank Assy, RH |
| 44 | 483536 | Grommet |
| 45 | 482571 | Bushing, .56” Dia. Viton |
| 46 | 482588 | Clip, Wire |
| 47 | 483642 | Double Fuse Assy. (incl. items 2, 14, 15, 46) |

** Available through the individual engine manufacturer.

# ZT-2800 HYDRAULIC AXLE ASSEMBLY



# ZT-2800 HYDRAULIC AXLE ASSEMBLY

| Ref. No. | Part No. | Description |
|---|---|---|
| 1 | HG70489 | Kit, Fan & Pulley |
| 2 | HG51244 | Nut, Hex Locking 1/2-20 |
| 3 | HG51523 | Washer, Slotted |
| 4 | HG51862 | Fan, 7" Dia. (10 Blade) |
| 5 | HG52364 | Pulley, Cupped 4-1/2" Dia. |
| | HG52366 | Hub, Pulley |
| 6 | HG51190 | Bolt, Hex Head 1/4-20 x 1-1/4" |
| 7 | HG52027 | Clip, Retaining |
| 8 | HG52639 | Handle, Brake |
| 9 | HG52640 | Shaft, Brake |
| 10 | HG51804 | O-Ring |
| 11 | HG9005110-5600 | Plug, 9/16-18 |
| 12 | HG71572 | Kit, Side Cover RH |
| | HG71574 | Kit, Side Cover LH |
| 13 | HG44121 | Bearing, Ball .75 x 40 x 12 |
| 14 | HG52161 | Spacer, .75 x 1.0 x .257 |
| 15 | HG52108 | Gear, 54T |
| 16 | HG50132 | Washer, .5 x 1.0 x .03 |
| 17 | HG52110 | Gear, 45T |
| 18 | HG52586 | Gear, 11T Steel |
| 19 | HG51083 | Jackshaft Pin |
| 20 | HG71413 | Kit, Housing RH |
| | HG71421 | Kit, Housing LH |
| 21 | 482800-03 | Fitting |
| 22 | HG51329 | Arm, Bypass |
| 23 | HG51627 | Ring, Retaining .750 Internal |
| 24 | HG52136 | Rod, Bypass |
| 25 | HG51628 | Ring, Retaining .375 External |
| 26 | HG51626 | Seal, Lip .375 x .75 x .25 |
| 27 | HG50329 | Ring, Retaining 2.06 Internal |
| 28 | HG51161 | Seal, Lip 17 x 40 x 7 |
| 29 | HG50951 | Washer, 1.23 x 1.56 x .04 |
| 30 | HG2000022 | Ring, Retaining Wire |
| 31 | HG50315 | Bearing, Ball 17 x 40 x 12 Open |
| 32 | HG52155 | Shaft, Input |
| 33 | HG71569 | Shaft Kit, Axle |
| 34 | HG50771 | Bearing, Ball 1.0 x 52 x 15 Open |
| 35 | HG51630 | Ring, Retaining .375 External |
| 36 | HG50772 | Seal, Lip 25 x 52 x 10 TC Gray |
| 37 | HG50859 | Ring, Retaining 2.06 Internal |
| 38 | HG71405 | Kit, Hub |
| | HG71241 | Hub, Puller (not shown) |
| 39 | HG50863 | Nut, Hex Locking 3/4-16 |
| 40 | HG71595 | Kit, RTN Assembly |
| 41 | HG51812 | Bolt, 5/16-24 x 1" Patch |
| 42 | HG51950 | Washer, .343 x 1.5 x .062 |
| 43 | HG71565 | Kit, Center Section RH |
| | HG71566 | Kit, Center Section LH |
| 44 | HG51605 | Spring |
| 45 | HG52682 | Arm, Control |
| 46 | HG51945 | Arm, Neutral RH |
| | HG51946 | Arm, Neutral LH |
| 47 | HG52527 | Spacer, .320 x 1.005 x .179 |
| 48 | HG51616 | Bolt, 5/16-24 x 1" Patch |
| 49 | HG44130 | Washer, .34 x .88 x .06 |
| 50 | HG44371 | Washer, .63 x 1.0 x .05 |
| 51 | HG44145 | Ring, Retaining |
| 52 | HG52641 | Pawl, Brake |
| 53 | HG52341 | Gear, 14T Steel |
| 54 | HG52150 | Shaft, Motor |
| 55 | HG51069 | Washer, .72 x 1.16 x .04 |
| 56 | HG51140 | Seal, Lip 18 x 32 x 7 |
| 57 | HG52114 | Filter |
| 58 | HG52257 | Filter Guard |
| 59 | HG50752 | Bolt, 1/4-20 x 3/4" |
| 60 | HG71410 | Seal Kit |
| 61 | HG71436 | Kit, Charge Relief |
| 62 | HG71411 | Kit, Charge Pump |
| 63 | HG51048 | Trunnion Swashplate |
| 64 | HG50551 | Thrust Bearing |
| 65 | HG51462 | Thrust Bearing |
| 66 | HG71579 | Kit, Motor Cylinder Block |
| 67 | HG70723 | Kit, Cylinder Block |
| 68 | HG71448 | Plate, Bypass |
| 69 | HG71436 | Kit, Charge Relief |
| 70 | HG52137 | Bolt, Hex Head 3/8-16 x 1-1/2" Patch |

# REPLACEMENT DECALS AND INFORMATION PLATES

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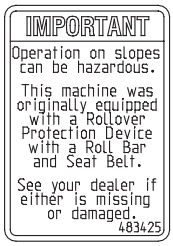
IMPORTANT
Operation on slopes can be hazardous.
This machine was originally equipped with a Rollover Protection Device with a Roll Bar and Seat Belt.
See your dealer if either is missing or damaged.
483425
3

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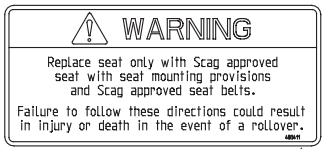
WARNING
Replace seat only with Scag approved seat with seat mounting provisions and Scag approved seat belts.
Failure to follow these directions could result in injury or death in the event of a rollover.
6

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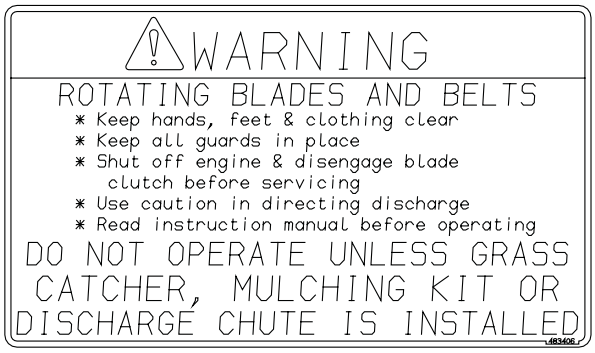
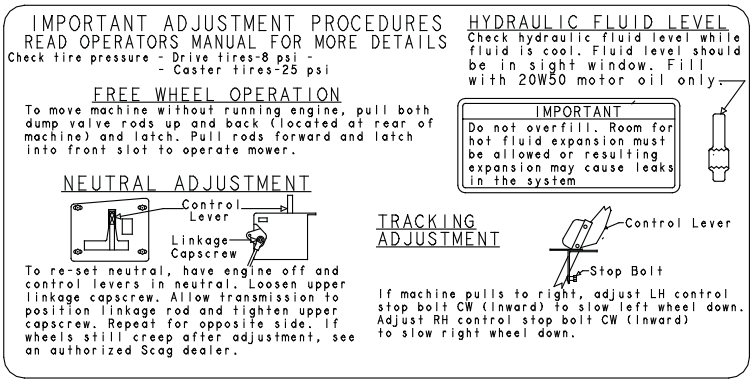
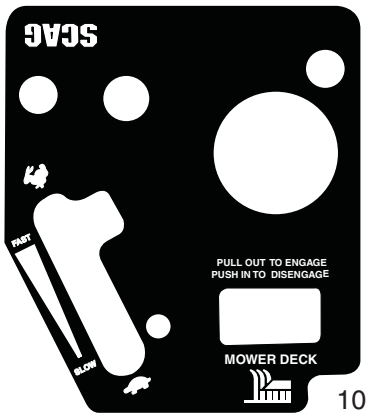

WARNING
ROTATING BLADES AND BELTS
* Keep hands, feet & clothing clear
* Keep all guards in place
* Shut off engine & disengage blade clutch before servicing
* Use caution in directing discharge
* Read instruction manual before operating
DO NOT OPERATE UNLESS GRASS CATCHER, MULCHING KIT OR DISCHARGE CHUTE IS INSTALLED
483406
8


IMPORTANT ADJUSTMENT PROCEDURES
READ OPERATORS MANUAL FOR MORE DETAILS
Check tire pressure - Drive tires-8 psi -
- Caster tires-25 psi
FREE WHEEL OPERATION
To move machine without running engine, pull both dump valve rods up and back (located at rear of machine) and latch. Pull rods forward and latch into front slot to operate mower.
NEUTRAL ADJUSTMENT
Control Lever
Linkage Capscrew
To re-set neutral, have engine off and control levers in neutral. Loosen upper linkage capscrew. Allow transmission to position linkage rod and tighten upper capscrew. Repeat for opposite side. If wheels still creep after adjustment, see an authorized Scag dealer.
HYDRAULIC FLUID LEVEL
Check hydraulic fluid level while fluid is cool. Fluid level should be in sight window. Fill with 20W50 motor oil only.
IMPORTANT
Do not overfill. Room for hot fluid expansion must be allowed or resulting expansion may cause leaks in the system
TRACKING ADJUSTMENT
Control Lever
Stop Bolt
If machine pulls to right, adjust LH control stop bolt CW (inward) to slow left wheel down. Adjust RH control stop bolt CW (inward) to slow right wheel down.
9



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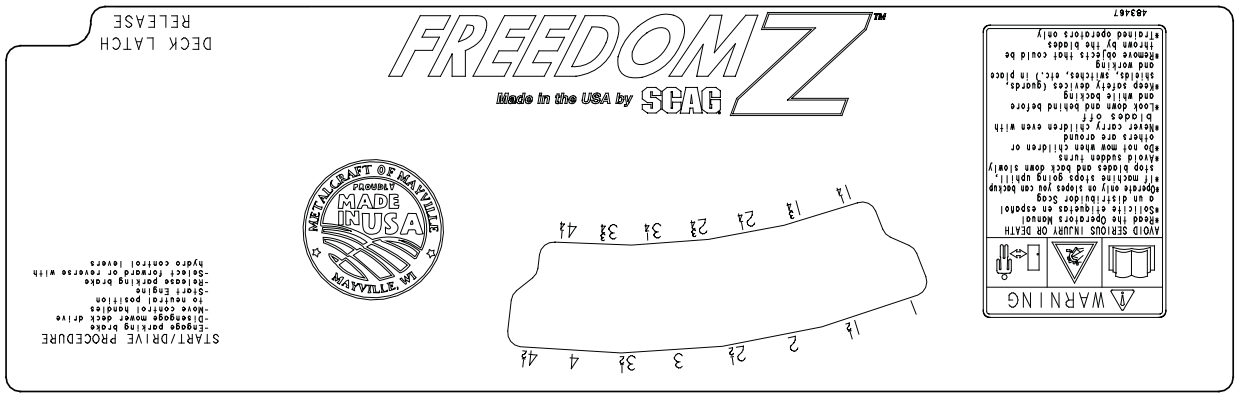
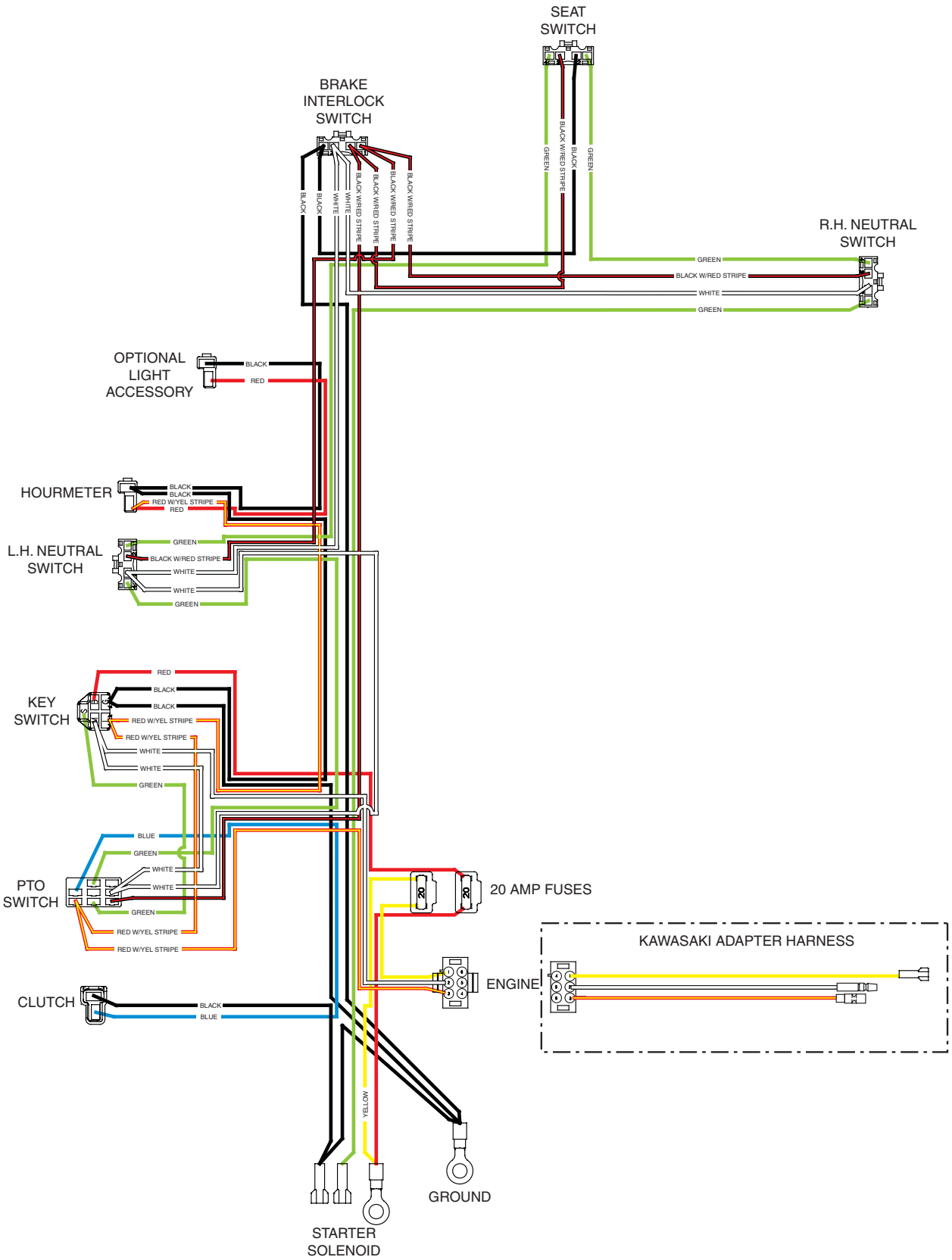

DECK LATCH
RELEASE
FREEDOM Z
Made in the USA by SCAG
METALCRAFT OF MAYVILLE
MADE IN USA
MAYVILLE, WI
START/DRIVE PROCEDURE
-Engage parking brake
-Disengage mower deck drive
-Move control handles to neutral position
-Start Engine
-Release parking brake
-Select forward or reverse with hydro control levers
AVOID SERIOUS INJURY OR DEATH
*Read the Operators Manual
*Solicite etiquetas en espanol o un distribuidor Scag
*Operate only on slopes you can backup
*If machine stops going uphill, stop blades and back down slowly
*Do not mow when children or others are around
*Never carry children even with blades off
*Look down and behind before and while backing
*Keep safety devices (guards, shields, switches, etc.) in place and working
*Remove objects that could be thrown by the blades
*Trained operators only
483467
12

# REPLACEMENT DECALS AND INFORMATION PLATES

| Ref. No. | Part No. | Description |
|---|---|---|
| 1 | 483402 | Decal, Belt Cover |
| 2 | 483405 | Decal, Warning |
| 3 | 483425 | Decal, ROPS |
| 4 | 483505 | Decal, Spinning Blades |
| 5 | 481568 | Decal, Traction Control |
| 6 | 483633 | Decal, Seat Replacement |
| 7 | 483494 | Decal, 48 Commercial |
| | 483495 | Decal, 52 Commercial |
| 8 | 483406 | Decal, Knives |
| 9 | 483632 | Decal, Adjustment SFZ |
| | *483502 | Decal, Adjustment SFZ |
| 10 | 483499 | Decal, Control Panel |
| 11 | 483501 | Decal, Front SFZ |
| 12 | 483467 | Decal, Cutting Height |

* Used on machines with a serial number in the following range only. D1500001 to D1500047.

# ELECTRICAL SCHEMATIC - FREEDOM Z



# LIMITED WARRANTY - FREEDOM Z

Any part of the Scag commercial mower manufactured by Scag Power Equipment and found, in the reasonable judgment of Scag, to be defective in materials or workmanship, will be repaired or replaced by an Authorized Scag Service Dealer without charge for parts and labor during the periods specified below. This warranty is limited to the original purchaser and is not transferable. Proof of purchase will be required by the dealer to substantiate any warranty claims. All warranty work must be performed by an Authorized Scag Service Dealer.

This warranty is limited to the following specified periods from the date of the original retail purchase for defects in materials or workmanship:

* Wear items including drive belts, blades, hydraulic hoses and tires are warranted for ninety (90) days.
* Batteries are covered for ninety (90) days.
* Frame and structural components including oil reservoir are warranted for 1 year for Commercial use, 3 years for Homeowner use. (Parts and labor).
* Cutter decks are warranted against cracking for a period of 1 year for Commercial use, 3 years for Homeowner use. (Parts and labor). The repair or replacement of the cutter deck will be at the option of Scag Power Equipment. We reserve the right to request components for evaluation. This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.
* Engines and electric starters are covered by the engine manufacturer's warranty period.
* Major drive system components are warranted for 1 year for Commercial use, 3 years for Homeowner use by Scag Power Equipment. (Parts and labor) (Warranty exclude fittings, hoses, drive belts). The repair or replacement of the hydraulic axles will be at the option of Scag Power Equipment. This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.
* Electric clutches have a Limited Warranty for 1 year for Commercial use, 3 years for Homeowner use. (Parts and labor).
* Spindle Assemblies have a Limited Warranty for 1 year for Commercial use, 3 years for Homeowner use. (Parts and labor).
* Any Scag product used for rental purposes is covered by a 90 day warranty.

The Scag mower, including any defective part must be returned to an Authorized Scag Service Dealer within the warranty period. The expense of delivering the mower to the dealer for warranty work and the expense of returning it to the owner after repair will be paid for by the owner. Scag's responsibility is limited to making the required repairs and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Scag mower.

**This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.** The warranty does not apply to any damage to the mower that is the result of improper maintenance, or to any mower or parts that have not been assembled or installed as specified in the Operator's Manual and Assembly Manual. The warranty does not cover any mower that has been altered or modified, changing performance or durability. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the reasonable judgment of Scag, are either incompatible with the Scag mower or adversely affect its operation, performance or durability.

**Scag Power Equipment reserves the right to change or improve the design of any mower without assuming any obligation to modify any mower previously manufactured.** All other implied warranties are limited in duration to the 1 year for Commercial use, 3 years for Homeowner use or ninety (90) days for mowers used for rental purpose. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate warranty period. Scag's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts and Scag does not assume or authorize anyone to assume for them any other obligation. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Scag assumes no responsibility for incidental, consequential or other damages including, but not limited to, expense for gasoline, expense of delivering the mower to an Authorized Scag Service Dealer and expense of returning it to the owner, mechanic's travel time, telephone or telegram charges, rental of a like product during the time warranty repairs are being performed, travel, loss or damage to personal property, loss of revenue, loss of use of the mower, loss of time or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.